AUDITOR
GENERAL
Alberta

Annual Report of the Auditor General of Alberta

2006–2007

Volume 1 of 2

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AUDITOR
GENERAL
Alberta

Mr. Dave Rodney, MLA
Chair
Standing Committee on Legislative Offices

I am honoured to send my *2006–2007 Annual Report*, which is in two volumes, to the members of the Legislative Assembly, as required by section 19(5) of the *Auditor General Act*.

This is my sixth annual report to the Legislative Assembly and the twenty-ninth such report issued by the Auditor General of Alberta.

[Original signed by Fred J. Dunn, FCA]
Fred J. Dunn, FCA
Auditor General

Edmonton, Alberta
September 19, 2007

Contents

Volume 1

Introduction

1 Snapshot
  1 Results of our four major systems audits
  6 Results of our audit work in ministries and other entities
9 Recommendation highlights
11 Acknowledgements

Audits and recommendations

15 2006–2007 recommendations list

Major systems audits

29 Assessing and prioritizing Alberta's infrastructure needs
63 Child intervention services
91 Energy's royalty review systems
133 The Government's revenue forecasting systems
153 The Government's revenue forecasting systems—appendix

Topics involving more than one ministry

171 Cross-Ministry
183 Government of Alberta and Ministry Annual Reports

Volume 2

We published Volume 2 separately. It contains our audit findings and recommendations for Ministries and the Offices of the Legislative Assembly. It also contains supplementary and reference information.

Snapshot

1. Results of our four major systems audits

This year we examined the government's systems for ensuring safe and sufficient infrastructure, protecting children at risk, getting an appropriate return on non-renewable resources, and making reasonable revenue forecasts. These topics matter to Albertans.

Two key themes that emerged from this work are the focus of our recommendations.

Key themes

The government needs to improve the following areas:
Planning—the government has infrastructure planning systems, but it needs to improve them. It can also improve its planning of royalty review work. Albertans expect the best possible information on what needs to be done and how much money is available to do it.

Clear communication—public reporting can improve—the public needs information to assess performance. In particular, the government can better explain the objectives, targets and performance of Alberta royalty regimes. It should include information on reducing deferred maintenance in the Capital Plan. It can also improve the information it provides on its revenue forecasts in the budget.

The following four tables summarize our four major systems audits.

Assessing and prioritizing Alberta's infrastructure needs

Department of Treasury Board

Audit objective

Does the government have well-defined and functioning systems to effectively assess and prioritize needs of departments and organizations that rely on government funding for their infrastructure?

Conclusions and findings	Recommendations (5)	Rec.
It has systems, but it can improve them. Government has taken significant steps to improve its systems, such as establishing the Department of Treasury Board. And it plans to: • establish a government-wide planning manual and an accountability framework. • establish a long-term capital plan with more strategic focus. • improve information on life-cycle costs. Government needs to continue strengthening its systems by: • implementing our five recommendations, and • making its planned improvements. Then it needs to create stability by minimizing changes and clearly communicating any updates it makes.	• Work with departments to finish developing guidelines describing roles and responsibilities for assessing and prioritizing infrastructure projects; and Communicate guidelines and develop processes for monitoring departments' compliance with guidelines.	No. 1, Vol. 1, p. 39
	• Consult with departments to develop objectives, timelines, and targets for reducing deferred maintenance; and Include information on reducing deferred maintenance in the province's Capital Plan.	No. 2, Vol. 1, p. 49
	• Require life-cycle costing information for proposed infrastructure projects; and Establish a process to ensure public infrastructure assets are properly maintained over their life.	No. 3, Vol. 1, p. 54
	• Improve the process to evaluate proposed infrastructure projects that ministries submit.	No. 4, Vol. 1, p. 57
	• Working with the Treasury Capital Planning Committee, examine how the current information provided to Treasury Board can be improved.	No. 5, Vol. 1, p. 59

Child intervention services

Ministry of Children's Services and Child and Family Services Authorities

Audit objective

Do the Department and Authorities have adequate systems to deliver child intervention services?

Conclusions and findings		Rec.
The Department and Authorities have comprehensive systems to deliver child intervention services. The systems are operating as intended. The systems' design could be improved by implementing our five recommendations.	• Review and update the standards.	No. 6, Vol. 1, p. 79
	• Evaluate accreditation processes for licensed facilities.	No. 7, Vol. 1, p. 82
	• Improve compliance monitoring processes by the Department.	No. 8, Vol. 1, p. 83
	• Improve training processes and feedback to caseworkers on monitoring results.	Page 86
	• Improve coordination of monitoring activities between the Department and Authorities.	Page 88

Energy's royalty review systems

Ministry of Energy

Audit objective

Are the Department's royalty review systems adequate?

Conclusions and findings	Recommendations (5)	Rec.
The Department has operated its royalty review systems for many years. But, they have design flaws. The Department can improve system design by implementing our five recommendations.	• Clearly describe and publicly state objectives and targets of Alberta royalty regimes.	No. 9, Vol. 1, p. 115
	• Improve planning, coverage and internal reporting of royalty review work.	No. 10, Vol. 1, p. 119
	• Improve annual performance measures that indicate royalty regime results.	No. 11, Vol. 1, p. 124
	• Periodically report publicly on royalty regimes, using methods and tools of technical review to: • provide information to owners, MLAs, and stakeholders about performance and issues of royalty regimes. • show Department's capacity and methodology to analyze royalty regimes.	No. 12, Vol. 1, p. 126
	• Improve controls for monitoring and technical review work.	No. 13, Vol. 1, p. 129

The Government's revenue forecasting systems

Audit objectives

1. Are the government's forecasting systems used for preparing the budget and subsequent quarterly fiscal updates adequate? Do they produce reasonable forecasts?

2. Do government budgets and quarterly updates provide sufficient information for users to understand the forecasts and impact of significant assumptions on the forecasts?

Conclusions and findings	Recommendations (5)	Rec.
The government has adequate systems for preparing revenue budgets and forecasts and generally they are operating effectively. The government can enhance its forecasting systems by implementing our four recommendations.	• Improve investment income forecasting by incorporating the return from active management of the Alberta Heritage Savings Trust Fund. • Improve method for estimating historical personal income growth. • Improve model for forecasting corporate taxable income. • Improve method for estimating corporate income tax refunds payable.	Page 142 Page 143 No. 14, Vol. 1, p. 145 No. 15, Vol. 1, p. 146
The government's budgets and quarterly updates provide information on significant revenue forecasts and their key assumptions and sensitivity to changes in assumptions. The government should enhance the information in the budget documents to help users better understand the forecasts.	• Explain why government energy revenue forecasts differ from others. • Disclose investment income sensitivities. • Give more information on expected range for government's total revenue forecast.	No. 16, Vol. 1, p. 149

2. Results of our audit work in ministries and other entities

We have key recommendations in the following areas—based on our cross-ministry and ministry audit work.

Recommendation No. 17, Vol. 1, p. 174

Government credit cards—the Department of Treasury Board, working with all other departments, should further improve controls for the use of government credit cards. At the former Department of Economic Development, we found that the use of government credit cards did not comply with the directives and policies. A significant number of credit card transactions did not have any supporting documentation and others were not adequately supported. This recommendation is key because without appropriate processes in place to enforce compliance with policies, government credit cards may be misused.

Recommendation No. 32, Vol. 2, p. 146

Information technology service level agreements—the Ministry of Service Alberta should revise its service level agreements with client ministries to ensure the agreements are current, clarify the level of services provided, and define the roles and responsibilities of each party. Service Alberta provides important services such as security management, asset management, and data base management to all Alberta government ministries. This recommendation is key because Service Alberta may not be providing the right services, and the government's and Albertans' confidential information may not be secure.

Recommendation No. 34 Vol. 2, p. 167

Compliance and enforcement activities—the Natural Resources Conservation Board, which is part of the Ministry of Sustainable Resource Development, is responsible for administering the *Agricultural Operation Practices Act* (AOPA). AOPA's purpose is to ensure that Alberta's confined feeding operations (CFOs) grow to meet the opportunities presented by local and world markets—in an environmentally sustainable way. The Board needs to assess the risks CFOs pose, and rank its compliance and enforcement activities based on these risks. Our recommendation sets out the steps the Board needs to take.

Volume 2 Page 189

Legislative Assembly Office—payments to Members—the Members' Services Committee should clarify policies and guidelines around Members' purchases of gifts and payments of bonuses to constituency employees. This recommendation is key since failure to provide clear and detailed guidance may cause a Member or the Legislative Assembly Office to misinterpret what is suitable.

Various recommendations

Information technology control framework—throughout the report, we have identified entities that need to implement an Information Technology (IT) control framework. An effective IT control framework bridges the gaps between risks, technical issues, and control requirements. It allows management and users to maximize IT benefits and minimize risks. These recommendations are important to prevent financial and information loss and unauthorized changes in organizations' systems and data.

Various recommendations

Outsourcing—throughout the report, we have identified entities that need to obtain assurance that outsourced Information and Technology are properly controlled. Outsourcing can be an efficient and effective way to obtain necessary IT services. However, organizations that outsource all or part of their IT infrastructure or operations are still responsible for ensuring that service levels are met, and that there are appropriate controls over the security, confidentiality, integrity, and availability of information assets.

Recommendation highlights

This Annual Report contains 82 recommendations, all of which are listed, starting at page 15. We have numbered the 34 recommendations that we think need a formal response from the government. Of the 34 numbered recommendations, 31 are new. The other 3 repeat previous recommendations where implementation progress was too slow. By repeating these recommendations, we expect the government to formally recommit to their implementation.

New list of outstanding recommendations

Outstanding recommendations

We have a new chapter called *Outstanding recommendations*—see Volume 2, page 197. It provides a complete list of the recommendations that are not yet implemented. Typically, we do not report on the progress of an outstanding recommendation until management has had sufficient time to implement the recommendation and we have completed our follow-up audit work.

New biannual (twice a year) reporting

Publicly report twice per year

We are making a significant change in our public reporting. Beginning in 2008, we will report publicly twice per year—April and October. This change allows us to report the results of our work sooner and in a predictable timeframe. We believe Albertans and the Standing Committee on Public Accounts will benefit because information will be more current.

Prioritizing our recommendations

As part of the audit process, we provide recommendations to government in documents called management letters. We use our public reporting to bring our recommendations to the attention of Members of the Legislative Assembly (MLAs). For example, members of the all-party Standing Committee on Public Accounts refer to the recommendations in our public reports during their meetings with representatives of government ministries and agencies. To help MLAs, we prioritize our recommendations in our public reports to indicate where we believe they should focus their attention. We categorize them as follows:

- **Key recommendations**—these are the recommendations we believe are the most significant. By implementing these recommendations, the government will significantly improve the safety and welfare of Albertans, the security and use of the province's resources, or the governance and ethics with which government operations are managed.

- **Numbered recommendations**—we believe these recommendations require a formal response from the government. We ask government to accept these recommendations and commit to an implementation date.
- **Unnumbered recommendations**—these recommendations, although important, do not require a formal response from government. We obtain management's acceptance of these recommendations, and agree to an implementation date

Recommendations more than three years old are reported at page 218 of Volume 2. Since the benefit of any audit work is not in the recommendation, but in its effective implementation, we follow up all of our recommendations until the issue that gave rise to the recommendation is satisfactorily dealt with. There are 26 recommendations reported before 2004 that have not been fully resolved.

🔑 Indicates a key recommendation

The key recommendations, in serial order, are numbered: 1, 2, 3, 6, 8, 9, 10, 12, 17, 32 and 34. We have also made a key recommendation to the Members' Services Committee of the Legislative Assembly.

Repeated recommendations

This report contains 3 repeated numbered recommendations:

- No. 19, Volume 2, Advanced Education and Technology—Grant MacEwan College—Financial processes (2000–2001, No. 39)
- No. 22, Volume 2, Education—Purchase of textbooks (2004–2005, No. 27)
- No. 34, Volume 2, Sustainable Resource Development—Rank compliance and enforcement activities based on risk (2003–2004, No. 28)

Acknowledgements

We are grateful to the Members of the Legislative Assembly, in particular the members of the Standing Committee on Public Accounts, who provide us with suggestions for audits they would find useful in doing their work as legislators. We appreciate their advice and thank them for their ongoing support.

We continue to appreciate input from members of the public who contact us to express concerns about government systems. They help us to plan the focus of our future audit work.

We thank the members of the Provincial Audit Committee for their wise counsel. This group of senior business executives with financial, business and governance skills has an important advisory role to government and the Office of the Auditor General.

We appreciate the cooperation of those we audit and recognize it is fundamental to our success. Senior management and board members of audited organizations met with us to discuss our audit plans, findings and recommendations. They provided us with the necessary information, reports, and explanations to our questions.

We acknowledge the advisors who helped us complete our major systems audits. We appreciate their valuable contributions to our audit teams and our work.

My staff, and the agent firms they work with, are dedicated to objective and cost-effective auditing for the Legislative Assembly and the people of Alberta. I thank them for their thorough and professional work.

[Original signed by Fred J. Dunn, FCA]
Fred J. Dunn, FCA
Auditor General

September 17, 2007

Audits and recommendations

2006–2007 recommendations list

🔑 **Indicates a key recommendation**

Green print—other numbered recommendations

Black print—unnumbered recommendations

Volume 1

Assessing and prioritizing Alberta's infrastructure needs

Page 39 🔑 **Roles and responsibilities need to be better defined and understood—Recommendation No. 1**
We recommend that the Department of Treasury Board, working with departments, finish developing the guidelines describing roles and responsibilities for assessing and prioritizing individual infrastructure projects. It should then communicate the guidelines and develop processes for monitoring departments' compliance with the guidelines.

Page 49 🔑 **Capital Plan needs to reduce deferred maintenance and consider life-cycle costs—Recommendation No. 2**
We recommend that the Department of Treasury Board, in consultation with departments, develop objectives, timelines, and targets for reducing deferred maintenance, and include information on reducing deferred maintenance in the province's Capital Plan.

Page 54 🔑 **Capital Plan needs to reduce deferred maintenance and consider life-cycle costs—Recommendation No. 3**
We recommend that the Department of Treasury Board:

- require life-cycle costing information for proposed infrastructure projects, and
- establish a process to ensure public infrastructure assets are properly maintained over their life.

Page 57 **Process to prioritize individual infrastructure projects needs improving—Recommendation No. 4**
We recommend that the Department of Treasury Board improve the process to evaluate proposed infrastructure projects that ministries submit.

Page 59 **Process to prioritize individual infrastructure projects needs improving—Recommendation No. 5**
We recommend that the Department of Treasury Board, working with the Treasury Capital Planning Committee, examine how the current information provided to Treasury Board can be improved.

Child intervention services

Page 79 🔑 **Enhanced child intervention standards—Recommendation No. 6**
We recommend that the Department of Children's Services review and update child intervention standards in support of its new Casework Practice Model.

Page 82

Accreditation systems for service providers—Recommendation No. 7
We recommend that the Department of Children's Services evaluate the cost-effectiveness of accreditation systems and the assurance they provide.

Page 83 🔑

Department compliance monitoring—Recommendation No. 8
We recommend that the Department of Children's Services improve compliance monitoring processes by:

- incorporating risk-based testing in case-file reviews.
- providing feedback to caseworkers on monitoring results of case-file reviews.
- obtaining and analyzing information on Authorities' monitoring of service providers.

Page 86

Authorities compliance monitoring processes—Recommendation
We recommend that the Child and Family Services Authorities improve compliance monitoring processes by providing caseworkers with:

- training on file preparation and maintenance.
- feedback from the monitoring reviews of case-file reviews.

Page 88

Authorities monitoring of service providers—Recommendation
We recommend that the Child and Family Services Authorities improve the evaluation of service providers by coordinating monitoring activities and sharing the results with the Department.

Energy's royalty review systems

Page 115 🔑

Royalty regime objectives and targets—Recommendation No. 9
We recommend that the Ministry of Energy clearly describe and publicly state the objectives and targets of Alberta's royalty regimes.

Page 119 🔑

Planning, coverage, and internal reporting—Recommendation No. 10
We recommend that the Department of Energy improve the planning, coverage, and internal reporting of its royalty review work.

Page 124

Improving annual performance measures—Recommendation No. 11
We recommend that the Department of Energy improve its annual performance measures that indicate royalty regime results.

Page 126 🔑

Periodic public information—Recommendation No. 12
We recommend that the Department of Energy periodically report on the province's royalty regimes. Periodic public reports should use the methods and tools of technical review to:

- Provide information to owners, MLAs, and stakeholders about the performance and issues for Alberta's royalty regimes;
- Demonstrate the Department's capacity and methodology to analyze its royalty regimes.

Page 129

Enhancing controls—Recommendation No. 13
We recommend that the Department of Energy enhance controls for its monitoring and technical review work.

The Government's revenue forecasting systems

Page 142

Rates of return used to forecast investment income—Recommendation
We recommend that the Department of Finance incorporate the return from active management of the Alberta Heritage Savings Trust Fund in the forecast of investment income.

Page 143

Personal income tax forecast —Recommendation
We recommend that the Department of Finance improve its method for estimating historical personal income growth used to forecast personal income tax revenues.

Page 145

Corporate income tax forecast—Recommendation No. 14
We recommend that the Department of Finance improve its model for estimating corporate taxable income.

Page 146

Estimating corporate income tax refunds—Recommendation No. 15
We recommend that the Department of Finance:

- improve its method for estimating corporate income tax refunds payable, and
- adjust forecasted corporate income tax revenue to reflect actual results as soon as the information is available.

Page 149

Public reporting of revenue forecasts —Recommendation No. 16
We recommend that the Department of Finance enhance the public reporting of revenue forecasts by:

- explaining the difference between the government's non-renewable resource revenue forecast and those of other private sector forecasters.
- disclosing investment income sensitivity to changes in rate of return earned on equity investments.
- explaining the expected range for the government's total revenue forecast including the reasonability of previous forecasts.

Cross-Ministry

Page 174

Government credit cards—Recommendation No. 17
🔑 We recommend that the Department of Treasury Board, working with all other Departments, further improve controls for the use of government credit cards by:

1. communicating responsibilities to all cardholders.
2. clarifying the support required to confirm both the nature and purpose of transactions.
3. providing guidance to senior financial officers and accounting staff on dealing with significant non-compliance.

Volume 2

Advanced Education and Technology

Page 10

University of Calgary—Information technology (IT) governance and control framework—Recommendation No. 18
We recommend that the University of Calgary implement an Information Technology governance and control framework.

Page 12

University of Calgary—Controls over payroll—Recommendation
We recommend the University of Calgary improve controls over payroll functions.

Page 13

University of Calgary—PeopleSoft security—Recommendation
We again recommend that the University of Calgary improve its controls in the PeopleSoft system by:

- finalizing and implementing the security policy and the security design document, and
- ensuring that user access privileges are consistent with both the user's business requirements and the security policy.

(*2005–2006, Volume 2, page 24*)

Page 15

University of Calgary—Controls over Sponsored Research and Trust accounts—Recommendation
We again recommend that the University of Calgary improve controls over Sponsored Research and Trust accounts.
(*2003–2004, page 257*)

Page 18

Grant MacEwan College—Financial processes—Recommendation No. 19
We again recommend that Grant MacEwan College improve its financial processes and controls to increase efficiency and accuracy in financial reporting.
(*2000–2001, No. 39*)

Page 20

Grande Prairie Regional College—Financial processes—Recommendation No. 20
We recommend that the Grande Prairie Regional College improve its processes and controls over financial reporting with the goal of increasing efficiency in preparing accurate internal and external financial reports.

Page 21

Alberta College of Art and Design—IT internal controls—Recommendation
We recommend that the Alberta College of Art and Design strengthen internal controls for computer system access and server backups. We further recommend that the College develop a computer use policy.

Page 23

University of Lethbridge—IT internal framework—Recommendation No. 21
We recommend that the University of Lethbridge implement an information technology control framework.

Page 24

University of Alberta—Security configuration settings
We recommend that the University of Alberta obtain assurance that its IT service provider maintains security configurations for the outsourced services as contracted.

Agriculture and Food

Page 32

Loan loss allowance methodology and process—Recommendation
We recommend that the Agriculture Financial Services Corporation improve its loan loss methodology and processes by:

- developing guidelines to assess which loans are impaired
- incorporating historical loan loss experience
- periodically updating data used in the methodology

Page 34

Wireless technology—Recommendation
We recommend that the Agriculture Financial Services Corporation assess the risks associated with wireless networking and implement policies and improve controls to mitigate the significant risks identified.

Page 35

Manual CAIS claims—Recommendation
We recommend that the Agriculture Financial Services Corporation improve data entry controls for manual Canadian Agricultural Income Stabilization claims.

Education

Page 45

Business cases—Recommendation
We recommend that the Department of Education establish a policy for developing business cases.

Page 46

Purchase of textbooks—Recommendation No. 22
We again recommend that the Department of Education implement a system to periodically evaluate the savings generated by the Learning Resources Centre. (*2004–2005, No. 27*)

Employment, Immigration and Industry

Page 55

Income support program—exception reports—Recommendation
We recommend that the Ministry of Employment, Immigration and Industry improve the use of exception reports to manage the income support program by:

- identifying exception reports available.
- assessing if the exception reports identify key program risks.
- identifying the review and follow-up requirements.

Page 56

Compliance audit function—Income support program—Recommendation
We recommend that the Ministry of Employment, Immigration and Industry strengthen its compliance audit of the income support program by ensuring that its regional office staff review and act on key exception reports.

Page 57

Debit cards—Recommendation
We recommend that the Ministry of Employment, Immigration and Industry improve controls to prevent duplicate income support payments to the same recipient.

Page 58

Capital asset policy—Recommendation
We recommend that the Ministry of Employment, Immigration and Industry improve its capital asset policy and procedures.

Page 60

Information technology control environment—Recommendation No. 23
We recommend that the Ministry of Employment, Immigration and Industry:

- develop service level agreements with information technology service providers that clearly define expected services;
- establish processes to obtain assurance that these service providers consistently meet service level requirements and that control activities performed by the providers are operating effectively.

Energy

Page 71

Energy and Utilities Board IT control framework—Recommendation No. 24
We recommend that the Alberta Energy and Utilities Board (EUB) implement an IT control framework to mitigate identified risks to the organization.

Finance

Page 85
Alberta Indian Tax Exemption program limits—Recommendation
We recommend that the Ministry of Finance assess the risk of paying tax refunds for individuals exceeding the tax-exempt tobacco limit of the Alberta Indian Tax Exemption program, and reduce the risk if it is too high.

Page 86
Journal entries—Recommendation
We recommend that the Ministry of Finance ensure that staff properly approve journal entries. We also recommend that the Ministry of Finance properly segregate the incompatible functions of preparing and approving them.

Page 87
Obtaining assurance on third party service providers—Recommendation
We recommend that the Tax and Revenue Administration Division of the Ministry of Finance ensure that controls over Ministry information assets hosted or administered by third party service providers are documented and operating effectively.

Page 91
Alberta Investment Management—Controls over derivative contracts—Recommendation No. 25
We recommend that Alberta Investment Management improve internal controls over its use of derivative contracts by:
- monitoring the credit worthiness of approved derivative counterparties
- obtaining derivative confirmations from counterparties
- tracking missing and incomplete derivative confirmations
- confirming the details of forward contracts with counterparties

Page 92
Alberta Investment Management—Controls over private investments—Recommendation
We recommend that Alberta Investment Management improve internal controls over private equity investments by:
- confirming the receipt of funds disbursed to private equity partnerships
- directing funds received to a separate private investment administration group for deposit and recording of transactions
- reconciling investment interests in private equity partnerships to audited partnership financial statements

Page 93
Alberta Investment Management—Access and change management controls—Recommendation
We recommend that Alberta Investment Management establish access and change management controls for its investment-related computer information systems.

Page 94
Alberta Treasury Branches—Processes to confirm compliance with Alberta Finance Guideline—Recommendation No. 26
We recommend that Alberta Treasury Branches:
- improve the processes for confirming its compliance with the Alberta Finance Outsourcing of Business Activities, Functions and Processes Guideline.
- review and assess which ATB staff should be responsible for ensuring compliance with the Alberta Finance Outsourcing of Business Activities, Functions and Processes Guideline.

Page 97
Alberta Treasury Branches—Information technology control framework—Recommendation
We recommend that Alberta Treasury Branches implement an effective organization-wide information technology (IT) control framework.

Page 99 **Alberta Treasury Branches—General loan loss allowance—Recommendation**
We recommend that Alberta Treasury Branches annually validate the general loan loss allowance (GLLA) model against actual loan-loss data and modify the model based on the results of the validation. We further recommend that ATB report the validation results and the controls in the model to the Audit Committee so it can assess the reasonableness of the GLLA estimate.

Health and Wellness

Page 105 **Unauthorized network connections—Recommendation**
We recommend that the Department of Health and Wellness improve its procedures to enforce and monitor compliance with its Information Security Policy.

Page 106 **Outsourced environment—Recommendation No. 27**
We recommend that the Department of Health and Wellness obtain regular assurance that outsourced information and technology is properly controlled.

Page 107 **Claims assessment system—Recommendation**
We recommend that the Department of Health and Wellness improve access and change-management controls in the Claims Assessment System.

Page 110 **Capital Health—business processes—Recommendation**
We recommend that Capital Health review its underlying business processes to ensure that it has reliable, accurate, and timely financial information for preparing financial statements.

Page 112 **Calgary Health Region—Recommendation No. 28**
We recommend that the Calgary Health Region:

- apply its uniform, formalized change-management procedures to all significant applications; and
- document all program changes and related controls.

Page 113 **Calgary Health Region—inappropriate user access—Recommendation No. 29**
We recommend that the Calgary Health Region regularly review all user accounts and roles assigned within systems and applications for inappropriate access privileges.

Page 114 **Calgary Health Region—contracting for consulting services—Recommendation No. 30**
We recommend that the Calgary Health Region follow its contract-management policy and processes in awarding contracts for consulting services.

Page 115 **Alberta Cancer Board—controls over access to computer applications—Recommendation**
We recommend that the Alberta Cancer Board promptly end network and application access for terminated employees.

Page 116 **Alberta Alcohol and Drug Abuse Commission—general computer controls—Recommendation**
We recommend that the Alberta Alcohol and Drug Abuse Commission document and follow a comprehensive information technology control framework.

Infrastructure and Transportation

Page 120 **Highway transfers—Recommendation**
We recommend that the Ministry of Infrastructure and Transportation monitor highway transfer agreements to ensure that transactions are appropriately recorded in its financial statements.

International, Intergovernmental and Aboriginal Relations

Page 124 **Grant monitoring—Recommendation**
We recommend that the Ministry implement an effective risk based system to ensure grant recipients comply with the terms and conditions of grants.

Justice and Attorney General

Page 128 **Information Technology Security—Recommendation No. 31**
We recommend that the Ministry of Justice develop and document Information Technology security policies.

Page 129 **Disaster Recovery Plans—Recommendation**
We recommend that the Ministry of Justice document and test disaster recovery plans for all Information Technology systems.

Page 130 **Information Technology Access Controls—Recommendation**
We recommend that the Ministry of Justice improve access controls over its information systems by:

- reviewing user access rights regularly, and
- adopting strong password controls.

Page 131 **Judicial Information Technology Security—Recommendation**
We recommend that the Ministry of Justice improve controls over the Civil and Sheriff Entry system by developing, documenting and implementing Information Technology security policies consistent with the guidance in the "Blueprint for the Security of Judicial Information".

Municipal Affairs and Housing

Page 137 **Alberta Social Housing Corporation—capitalization policy—Recommendation**
We recommend that the Alberta Social Housing Corporation develop and implement procedures to support its capitalization policy, document them, and communicate them to financial services staff and program staff.

Page 138 **Information Technology management controls—Recommendation**
We again recommend that the Ministry of Municipal Affairs and Housing approve its draft security policies, and implement procedures so that only authorized users can access the Ministry's systems and data.

We also again recommend that the Ministry:

- implement a risk assessment framework to manage information technology risks, and
- obtain independent assurance on the outsourced computer general control environment.

(2003–2004, page 265)

Seniors and Community Supports

Page 143

General computer controls—Recommendation
We recommend that the Ministry of Seniors and Community Supports improve general computer controls by:

- identifying and protecting data based on its sensitivity,
- following change management procedures,
- reviewing database logs, and
- reviewing user access to applications.

Service Alberta

Page 146

Service level agreements between Service Alberta and its client ministries—Recommendation No. 32
We recommend that the Ministry of Service Alberta, working with its client ministries, revise their information technology service level agreements to:

- ensure that the agreements are current
- clarify the level of services provided in each service category
- define the roles and responsibilities of each party

Page 148

Security administration for shared services at distributed sites—Recommendation
We again recommend that the Ministry of Service Alberta ensure that the systems it administers comply with the Alberta government's standards for computer security. (*2005–2006, Volume 2, page 165*)

Page 149

Risk assessment for central data centre assets—Recommendation
We recommend that the Ministry of Service Alberta regularly complete risk assessments for central data centre assets that are key to providing critical services.

Solicitor General and Ministry of Public Security

Page 154

Change Management—Recommendation
We recommend that the Department of Solicitor General and Public Security improve its change management process to include changes to its information technology environment made by service providers.

Page 155

IT Business Continuity Plan—Recommendation
We recommend that the Department of Solicitor General and Public Security develop procedures to implement its business continuity plan to ensure it can recover its information technology operations within required timeframes in a disaster.

Sustainable Resource Development

Page 161

Leases and sales—Recommendation
We recommend that the Department develop a guideline for lease and sale of land indicating when and with whom to consult.

Page 162

Land sale agreements clearly outline the terms and conditions of sales and conditions in land sale and lease agreements are met—Recommendation
We recommend that the Department establish a guideline to not sell public land until the lessee is in compliance with key lease requirements.

Page 163

Requests for proposals to ensure the province gets the best possible value that can be obtained given government objectives—Recommendation No. 33
We recommend that the Department of Sustainable Resource Development evaluate whether government objectives could be met by introducing requests for proposals from all interested parties whenever an entity applies to put substantial improvements on public land.

Page 165

Project management—Recommendation
We recommend that the Department show clearly throughout a project that repeated contracting with the same contractor is a cost effective way to achieve that project's desired outcome.

Page 167

Natural Resources Conservation Board—Rank compliance and enforcement activities based on risk—Recommendation No. 34
We again recommend that the Natural Resources Conservation Board rank its compliance and enforcement activities based on risk. To do so, the Board must:

- define through research the environmental risks applicable to CFOs and their impact
- categorize CFOs by priority levels of environmental risk at different locations
- conduct appropriate sampling and testing to confirm the validity of assigned risk levels
- select and deliver appropriate compliance and enforcement action

(2003–2004, No. 28)

Tourism, Parks, Recreation and Culture

Page 172

Computer control environment—Recommendation
We recommend that the Ministry of Tourism, Parks, Recreation and Culture work with Service Alberta to:

- document the services that Service Alberta is to provide and its control environment for information technology
- implement a process to ensure that Service Alberta consistently meets service level and security requirements
- provide evidence that control activities maintained by Service Alberta are operating effectively

Treasury Board

Page 178

Inconsistent budgeting and accounting for grants
We recommend that the Ministry of Treasury Board, working with other departments, provide guidance to ensure consistent accounting treatment of grants throughout government.

Offices of the Legislative Assembly

Page 189 **Strengthen policies for Members' Services Allowance—Recommendation**

🔑 We recommend that the Members' Services Committee clarify policies and guidelines governing:

- purchases of gifts by Members
- payments of bonuses to constituency employees by Members

Page 192 **Temporary Residence Allowance—Recommendation**

We recommend that the Members' Services Committee review whether the system governing the Temporary Residence Allowance is working as intended.

Major systems audits

Assessing and prioritizing Alberta's infrastructure needs

Summary

Assessing and prioritizing infrastructure needs across government is a complex process. The Alberta government has systems to assess and prioritize these needs, but the Department of Treasury Board should improve them by:

1. Finishing developing the guidelines that define the roles and responsibilities of the government departments, and other organizations that rely on government funding for their infrastructure needs. Then the department must communicate and monitor compliance with the guidelines. Guidelines are important to define roles and responsibilities and establish who is to assess, prioritize, and approve infrastructure proposals—so that program delivery objectives are met. Guidelines also establish who is to produce proper cost estimates so that projects are delivered within budgets—see recommendation 1 on page 39.
2. Developing targets and timelines to reduce deferred maintenance and including this information in the province's Capital Plan. Government departments estimate the March 31, 2007 deferred maintenance total of certain infrastructure to be $6 billion. There is some uncertainty in the accuracy of this estimate since not all the information used to compile this estimate has been reviewed for completeness and accuracy. Also, the Department of Treasury Board has not reviewed the methodology used by departments to determine their capital maintenance requirements. If the methodology is accurate the current funding levels will result in further growth in deferred maintenance. Developing targets and timelines will help reduce deferred maintenance totals and ensure that existing infrastructure does not incur excessive costs over its life and does not impede program delivery or pose safety concerns—see recommendation 2 on page 49.
3. Requiring life-cycle costing and establishing a process to ensure infrastructure assets are properly maintained. This will help the government decide between projects, avoid deferred maintenance problems, and ensure consistency in program and capital funding—see recommendation 3 on page 54.
4. Improving the systems to prioritize the relative merits of individual infrastructure projects and ensuring that Treasury Board has good summary information to decide what infrastructure projects to fund—see recommendations 4 and 5 on pages 57 and 59.

The Department of Treasury Board can improve systems to assess and prioritize infrastructure needs of departments and other organizations that rely on government funding for infrastructure. The government has already taken some significant steps to improve its systems, including establishing the Department of Treasury Board. One of the Department's responsibilities is to improve the planning processes for infrastructure needs. These improvements are the first steps in implementing the recommendations in this report.

Audit objective and scope

Audit objective

We set out to answer the question: Does the government have well-defined and functioning systems to effectively assess and prioritize infrastructure needs of departments and other organizations that rely on government funding for their infrastructure? (These other organizations are known as supported infrastructure organizations, or SIOs.)

Audited Department of Treasury Board's central processes and reviewed sample of program departments and SIOs

1. We audited the Department of Treasury Board's processes to centrally compile, assess and prioritize infrastructure proposals across departments, and then provide information to Treasury Board.
2. We reviewed the processes at selected program departments and SIOs to substantiate our findings on the central processes. These departments include: Infrastructure and Transportation, Advanced Education and Technology, Health and Wellness, Education, and Environment. We also reviewed 5 post-secondary institutions and 4 health authorities. Given that the Departments of Advanced Education and Technology and Health and Wellness are program departments with significant government expenditures and both provide significant capital funding to SIOs, we reviewed these Departments in the greatest detail. Other Departments not noted in this report may have similar issues to those noted for departments that are cited.

2007–2010 Capital Plan

We primarily audited the systems used to assess and prioritize infrastructure needs to produce the 2007–2010 Capital Plan. The Capital Plan is a public document that the government produces yearly to report its planned infrastructure spending. We also looked at specific infrastructure projects previously included in prior capital plans, but still considered in the 2007–2010 Capital Plan. This plan was compiled mainly under the systems existing before the new Department of Treasury Board was formed in December 2006. However, we make our recommendations to this Department, because improving infrastructure planning systems is part of its mandate.

Didn't audit municipal infrastructure

Government supports other municipal infrastructure (for example, municipal roads) with municipal infrastructure grants. It calculates these grants using a different process from the process for approving individual projects. We did not assess the process to manage these grants.

Audited planning and approval of projects only

A complete system to effectively provide Alberta's infrastructure needs would include all the following elements: planning, approval, project implementation, and post-implementation review. We audited only the planning and approval elements.

Infrastructure planning systems

General information on assessing and prioritizing infrastructure needs

Processes to allocate funds to new and existing infrastructure are intrinsically linked

Governments use systems to assess and prioritize infrastructure needs to allocate dollars for both acquiring and maintaining significant infrastructure, such as buildings and roads. The systems to allocate funds to new infrastructure are intrinsically linked with the systems to maintain existing infrastructure. If infrastructure is properly maintained, the need for new infrastructure is less. The Government of Alberta includes funding for both new infrastructure and existing infrastructure in its public 3-year Capital Plan.

Systems are complex and involve many parties

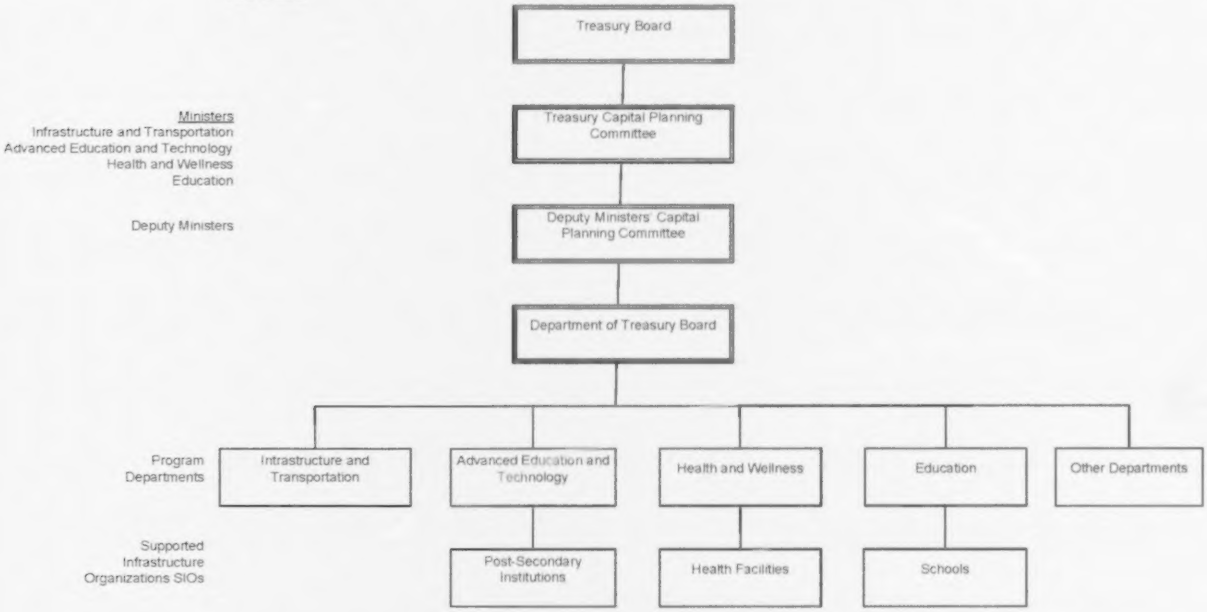
The systems to prioritize infrastructure needs are complex and involve a great deal of information sharing between various parties, from organizations the government supports, to government departments and members of Treasury Board. Part of the complexity is because it's hard to compare the relative merits of different projects with vastly different purposes (for example, building a new hospital versus maintaining an existing water dam).

Not all projects can or will be funded: systems need to prioritize them

It is important for the government to have an effective process to allocate the capital dollars available, since it can't fund many worthwhile projects for two reasons. First, the dollar value of requests for government funding far exceeds the funding in the Alberta government's Capital Plan. Second, Alberta's industrial capacity is strained today and that limits what infrastructure the government can build.

Roles

Key players and what they do to assess and prioritize infrastructure needs


Treasury Board
Ministers
Infrastructure and Transportation
Advanced Education and Technology
Health and Wellness
Education
Treasury Capital Planning Committee
Deputy Ministers
Deputy Ministers' Capital Planning Committee
Department of Treasury Board
Program Departments
Infrastructure and Transportation
Advanced Education and Technology
Health and Wellness
Education
Other Departments
Supported Infrastructure Organizations SIOs
Post-Secondary Institutions
Health Facilities
Schools

Supported infrastructure organizations

1. **Supported Infrastructure Organizations (SIOs)**—the government gives grants to SIOs for their infrastructure needs. They include post-secondary institutions, health authorities, and schools. SIOs decide on their infrastructure needs and prepare a business case for the funding. They provide the business case to the relevant government departments (Advanced Education and Technology, Health and Wellness, and Education respectively). SIOs, along with the Department of Infrastructure and Transportation, must also maintain information on the condition of existing facilities and their maintenance needs.

Program departments

2. **Program departments**—there are two types: departments that provide grants to SIOs, and departments that control infrastructure directly (for example, the Department of Infrastructure and Transportation is directly responsible for provincial roads).

   Program departments that provide grants are to inform the SIOs how government processes work and explain government program priorities in their sector. They also prioritize SIOs' submissions and make a consolidated submission of infrastructure needs to the Department of Treasury Board.

   Program departments that control infrastructure directly have to determine their infrastructure needs, prepare business cases, assess the relative merits of different projects, and prepare a submission of their infrastructure needs to the Department of Treasury Board.

Department of Infrastructure and Transportation

3. **Department of Infrastructure and Transportation**—in addition to being a program department, the Department of Infrastructure and Transportation also plays an important role in other infrastructure projects. It works closely with the program departments and provides technical support on all projects, including information on expected project costs. It also maintains information on the condition of existing facilities and their maintenance needs.

Department of Treasury Board

4. **Department of Treasury Board**—established in December 2006, it assumed responsibility, from the Department of Infrastructure and Transportation, for the cross-ministry process that compares all program departments' submissions of potential infrastructure projects to fund. The cross-ministry process uses criteria to assess the relative needs of different projects. The outcome of this process is information for the Deputy Ministers' Capital Planning Committee. This Department is also responsible for improving the processes to assess and prioritize infrastructure needs. As part of that, it is compiling and updating existing information to produce a Capital (infrastructure) Planning Manual.

Deputy Ministers' Capital Planning Committee

5. **Deputy Ministers' Capital Planning Committee (DMCPC)**—this committee is made up of deputy ministers from the program departments. Its role is to provide information and recommendations relating to capital requirements, capital projects and program priorities, and capital planning strategies for government owned and supported infrastructure to the Treasury Capital Planning Committee. Specifically, it considers three year and longer term capital requirements for government owned and supported infrastructure, strategies to address deferred maintenance, allocation of new funding to capital program envelopes, alternative capital financing of projects, and cost escalation management strategies.

Treasury Capital Planning Committee (TCPC)

6. **Treasury Capital Planning Committee (TCPC)**—established March 22, 2007, this committee is chaired by the Associate Minister for Capital Planning and comprised of the Ministers of Infrastructure and Transportation, Advanced Education and Technology, Health and Wellness, and Education. The Committee's role is to provide advice and make recommendations to Treasury Board on matters relating to the government's three year Capital Plan. The Committee assesses the information from the DMCPC, and then recommends funding for infrastructure needs to Treasury Board. The Committee also helps develop a long-term capital plan for the province.

Treasury Board

7. **Treasury Board**—made up of several Ministers and other Members of the Legislative Assembly (MLAs), it is a key committee in government. Treasury Board decides what infrastructure needs government will fund. It uses

information from the TCPC and other sources to make these decisions.

Status of capital planning in Alberta today

Below are two tables showing total funding, and major maintenance funding, by major asset category. These show the infrastructure that government is funding.

Spending has roughly tripled from *2004-07 Capital Plan* to the *2007-10 Capital Plan*

Approved capital funding by major asset category

(million)	**2007-10 Capital Plan**	**2006-09 Capital Plan**	**2005-08 Capital Plan**	**2004-07 Capital Plan**
Municipal Infrastructure support	$ 4,262	$ 3,127	$ 3,153	$ 934
Provincial highways	4,614	3,637	1,970	1,741
Health facilities	3,043	2,910	1,596	1,093
Schools	1,278	833	644	636
Post-secondary institutions	1,583	1,122	469	416
Community facilities	819	376	380	232
Water and wastewater management	679	277	171	267
Housing, government facilities and other capital	1,967	1,040	836	1,139
Total	**$ 18,245**	**$ 13,322**	**$ 9,219**	**$ 6,458**

Approved maintenance funding from the Infrastructure Maintenance Program, by major asset category.

This is the most regular and predictable source of funding for non-routine major maintenance for non-government owned facilities—we define maintenance and note the funding sources on pages 49. As noted below, government-owned facilities do not get grants from this program; however, government funds are provided through the normal departmental budget process.

(million)	**2007-10 Capital Plan**	**2006-09 Capital Plan**	**2005-08 Capital Plan**	**2004-07 Capital Plan**
School facilities	$ 288	$ 273	$ 182	$ 159
Health facilities	192	191	173	133
Post secondary institutions	107	106	107	105
Government owned facilities	-	-	-	-
Provincial highways	541	369	283	335
Total	**$ 1,128**	**$ 939**	**$ 745**	**$ 732**

Timeline of some recent major changes in province's infrastructure planning process

The following is a timeline of some (not all) recent major changes in the province's infrastructure planning process. This eight-year history provides background for our findings. It also shows that government's infrastructure planning systems have changed considerably over the past several years.

Date	**Event**
1999	Cross-government Capital Planning Initiative established and led by Ministry of Infrastructure. Goal to improve the efficiency and effectiveness of capital planning. Deputy Minister Capital Planning Committee established to set direction and oversee work.
2002	Financial Management Commission (Commission) appointed to review government's fiscal planning policies and strategies, including capital expenditure accounting and financing (including the use of public-private partnerships—P3s).
July 8, 2002	Commission submitted final report, with key recommendations on infrastructure planning: • put all non-renewable resource revenue and year-end surpluses into renewed Alberta Heritage Fund for stable and predictable funding. • withdraw a fixed and sustainable amount each year to support the government's operating and capital budget. • include business plan for all capital project proposals clearly outlining funding model and cost implications,

including operating costs, amortization, and debt repayment.

- establish and communicate standardized methods to estimate and report on deferred maintenance and use, functional obsolescence, and efficiency of facilities; use these tools in planning and reporting.
- develop a plan to addressing deferred maintenance systematically over the next five years.

October 2002	Government accepted majority of Commission recommendations.
2003	Government announced new fiscal framework to implement many Commission recommendations. Government approves its first three-year capital plan. Departments involved in Capital Planning Initiative produce first draft P3 guidelines.
February 2003	Agenda and Priorities Committee agrees to a process for approving capital projects. Ministries' capital submissions are to identify whether its capital projects have alternative capital financing potential.
March 10, 2003	*Fiscal Responsibility Act* amended. Debt incurred for capital investment after April 1, 2003 excluded from the "accumulated debt" that is statutorily required to be eliminated by 2025. Sustainability Fund and Capital Account created by province to provide more stability to capital asset funding.
February 2004	Structure of the Capital Planning Initiative changed. Deputy Minister Capital Planning Committee expanded to include 10 additional departments. Ministerial Capital Planning Committee, including same 10 ministries, formed to, among other things, recommend to Treasury Board what projects should be in Provincial Capital Plan.
September 2005	Responsibility for SIO infrastructure programs became joint responsibility of each Minister of the program ministry (Advanced Education and Technology, Health and Wellness, and Education) and the Minister of Infrastructure and Transportation.
December 2006	Government establishes Department of Treasury Board, now responsible for infrastructure planning.
March 2007	Treasury Capital Planning Committee is established.

Infrastructure planning across Canada

High-level research on 5 provinces

We inquired how infrastructure planning processes work in British Columbia, Ontario, Quebec, Manitoba, and Nova Scotia to see how the Alberta systems compare.

Duration of capital plans

Similar to Alberta, three provinces have public multi-year capital plans, from 3 to 5 years, which outline the government's infrastructure priorities and commitments by sectors (BC, Ontario, and Quebec). Manitoba published a multi-year capital plan for highways. Nova Scotia approves capital spending annually and does not publish multi-year capital plan.

Use of a central unit to assess and prioritize infrastructure needs

Central units of the government in these provinces are involved in gathering capital requests from individual departments. However, their involvement in prioritizing these requests varies. As it does in Alberta, the central unit generally is responsible to gather requests and supporting documentation from departments, prioritize the requests across government, and recommend funding approvals to Cabinet or its equivalent (Ontario, Quebec, Manitoba and Nova Scotia). In BC, individual projects are not prioritized against one another centrally; however a central agency does provide recommendations on the government's overall capital plan to ensure it aligns with government priorities.

Use of criteria

The criteria that provinces, including Alberta, use to prioritize projects are fairly consistent. They include affordability, consistency with the government immediate and long-term priorities, health and safety issues, and impact on improved quality of public services.

Tracking of deferred maintenance and use of life-cycle costs

Other provinces told us that they don't have detailed tracking of deferred maintenance on a government-wide level, but individual departments may have information on deferred maintenance needs. Therefore, we could not compare the magnitude of Alberta's deferred maintenance to that of other provinces. Three provinces consider life-cycle costs of infrastructure in their capital planning processes, something Alberta does in some ministries and is starting to do in others (BC, Ontario and Manitoba). Two provinces plan to quantify life-cycle costs in future planning cycles (Quebec and Nova Scotia).

Good practices in Alberta's infrastructure planning systems

We highlight 3 good practices

We have identified the following good practices in Alberta's infrastructure planning systems:

Establishing the Department of Treasury Board

- Establishing a department responsible for overseeing infrastructure planning—when the Department of Treasury Board was established in December 2006, it became responsible for infrastructure planning. Before this, the Department of Infrastructure and Transportation chaired the DMCPC and led the infrastructure planning process, but it didn't have the authority or oversight role that the Department of Treasury Board now has. The Department of Infrastructure and Transportation developed guidelines and practices (guidelines on the assessment and procurement processes of public-private partnerships (P3s), the proposed accountability framework for infrastructure projects discussed on page 48 of this report), but could not ensure consistent use across government. The Department of Treasury Board should be able to promote consistent practices.

Planning to develop a long-term capital plan

- Developing long-term capital plans—first, government developed a three-year capital plan in 2003. Now, the Department of Treasury Board's mandate includes developing a long-term capital plan to meet needs related to growth, ensure maintenance of existing infrastructure, explore options to fund capital projects, and manage inflation in construction costs. Developing a long-term capital plan is a positive step—it should provide more clarity and predictability in infrastructure spending.

Developing an Alternative Capital Planning Office

- Developing an Alternative Capital Planning Office—this is part of the Department of Treasury Board and will be key in managing future P3s. In our *2003–2004 Annual Report* (page 50), we explained that P3s are complex and involve a steep learning curve. Therefore, if government plans to enter into future P3s, it should develop the expertise to assess whether using a P3 is appropriate and to manage the P3 procurement processes. This new Office is expected to identify and analyze alternatives for building and financing capital projects and negotiate P3s, when feasible, for the government.

Criteria and conclusions

Systems exist but significant improvements needed

The Alberta government has systems to assess and prioritize infrastructure needs, but it can significantly improve them, as our 5 recommendations explain. We used 6 criteria to assess the government's systems (Roles and responsibilities; Information systems; Project assessment and prioritization; Life-cycle costs; Information to decision makers; and Accountability information). Our recommendations deal with the criteria that were not met.

The government has taken significant steps to improve its systems. For example, it established the Department of Treasury Board, responsible for improving the planning processes for infrastructure needs. The improvements are the first steps in implementing the recommendations in this report.

Alberta systems similar to provinces reviewed

We reviewed other provinces' processes at a high-level; Alberta's infrastructure planning processes are similar to these provinces. But it is important that Alberta continue to strengthen its systems. If the Department of Treasury Board implements our recommendations and makes its planned improvements (establish a government-wide capital planning manual and accountability framework, establish a long-term capital plan with a more strategic focus, improve information on life-cycle costs, etc), Alberta could be a leader in the Canadian public sector in systems to effectively allocate infrastructure funding.

Treasury Board should make required changes, then aim for stability

Infrastructure planning has been in a state of change for at least the past eight years. Constant change can blur roles and responsibilities. The key is for the Department of Treasury Board to decide the extent of changes needed to meet its mandate and implement our recommendations. It should effectively implement those changes, and then create stability by having similar processes for several years, while clearly communicating any minor updates to the systems.

Our audit findings and recommendations

1. Roles and responsibilities need to be better defined and understood

Recommendation No. 1

We recommend that the Department of Treasury Board, working with departments, finish developing the guidelines describing roles and responsibilities for assessing and prioritizing individual infrastructure projects. It should then communicate the guidelines and develop processes for monitoring departments' compliance with the guidelines.

Background

Each level depends on accuracy of information produced in previous level

We discuss the current roles and responsibilities previously (see page 32—Key players and what they do to assess and prioritize infrastructure needs). To fulfill their responsibilities, organizations or committees depend on receiving good information from other parties. For example, if Treasury Board is deciding to fund a new hospital, it depends on the health authority to produce a good business case to show that the hospital is needed and that the proposed facility is the best way to meet the need. It also depends on the analysis of the Departments of Health and Wellness, and Infrastructure and Transportation to ensure that the proposed hospital is consistent with how government wants to provide health care, that it's appropriate for delivering those services, and that it's properly costed. Finally, Treasury Board also depends on the systems at the Department of Treasury Board and Deputy Ministers' Capital Planning Committee to compare the relative merits of the proposed hospital to other competing proposals for government funds.

Infrastructure planning a diverse process that needs flexibility

By its nature, an infrastructure planning process needs flexibility. Different infrastructure projects will require different analysis. For example, we expect greater analysis to show the need for a hospital that is based on predictions of a shortfall of 500 beds in 10 years, than a hospital with a current shortfall of 500 beds. Also, the analysis of alternative ways of meeting a program need could vary considerably, based on the type of project. For example, a standard 500-student kindergarten-to-grade-6 school that the government has considerable experience in building typically would need much less review of alternatives than a new research facility never before funded. Review of alternatives becomes more important, as well, in any of the following situations: the proposed project is a potential public-private partnership candidate; the organization proposing a new facility has potential capacity in existing facilities that could be renovated to meet the program need; the proposed project is based on a program need that could be met by a new type of delivery.

Treasury Board may also need flexibility in reacting to urgent needs

Treasury Board may also need flexibility on when it announces government's intentions on funding certain infrastructure projects. Planning for infrastructure takes time and the government may need to react to an urgent need.

Accurate cost estimates are key

Accurate cost estimates are important to ensure the usefulness of a capital plan. The amount of analysis needed to produce an accurate cost estimate varies by project. Consider again the previous example. Producing an accurate cost estimate for a school would be much easier than producing a cost estimate for a specialized research facility, due to factors such as government's past experience and the number of cost inputs needed. The accuracy of cost estimates improves over the various stages of planning.

The Department of Infrastructure and Transportation typically defines the accuracy of costs for buildings at various stages of work. For example, at a preliminary analysis stage, the accuracy of the cost estimates may be approximately +/- 40%, then refined to +/-15-20%, depending on the project. As the project moves to the design development stage, the precision may then be approximately +/-10%. As the project progresses, so does the accuracy of estimates. Alternately, for SIOs, the government may have full cost certainty earlier on if a grant agreement specifies the level of government funding, and this agreement is not adjusted. Still, if the grant agreement is not based on good analysis, the risk of the SIO requesting more grant money increases.

Criteria: the standards we used for our audit

1. The Department of Treasury Board should establish and communicate guidelines on roles and responsibilities for assessing and prioritizing infrastructure needs, and then monitor compliance with the guidelines.

2. Government should approve individual infrastructure projects based on sufficient analysis of whether a program need exists, and review of alternative ways of meeting the program need.

3. The Departments of Treasury Board and Infrastructure and Transportation should have guidelines for the required level of precision in cost estimates at various stages in the infrastructure planning process.

Our audit findings

Currently, government-wide guidelines need improvement

The government-wide guidelines that describe the roles and responsibilities of each participant in the infrastructure process, and the level of analysis required to approve individual infrastructure projects, need improvement. Guidelines are important to establish who is responsible for approving whether infrastructure proposals support program needs, thereby helping ensure that program delivery objectives are met. Guidelines also establish who is responsible for producing proper cost estimates, thereby helping ensure projects are delivered within budgets. Below, we list the areas where government-wide guidelines are needed. This will help ensure that more consistent information is coming into the central processes from all participants in the infrastructure planning process.

We have organized our discussion of the necessary guidelines as follows:

1.1 Guidelines—all program departments
  1.1.1 Assessing program needs
  1.1.2 Reviewing alternatives
  1.1.3 Approving projects outside the normal process

1.2 Guidelines—the Department of Infrastructure and Transportation
  1.2.1 Approving cost estimates

1.3 Guidelines—program departments with SIOs
  1.3.1 Communicating process and decisions to SIOs
  1.3.2 Funding and approving SIO business cases
  1.3.3 Example—Calgary South Hospital

1.1 Guidelines—all program departments

1.1.1 Assessing program needs

Program departments have varying processes to assess program needs

Departments have various processes to assess program needs associated with infrastructure proposals—guidelines would help ensure a more consistent process. For example, the Department of Infrastructure and Transportation has a fairly detailed process to assess program needs for provincial roads. The process involves identifying project needs, assigning points based on a detailed set of criteria, prioritizing projects based on the assigned points and qualitative factors, and then developing a three-year draft construction plan. The Department also has a detailed process to assess whether to lease or build facilities to accommodate government departments. These are more detailed processes than those in the two program ministries with SIOs noted in the next paragraph.

The Department of Health and Wellness has a detailed capital (infrastructure) planning manual outlining processes for health authorities to follow. It also has detailed criteria to analyze health authorities' submissions. By contrast, the Department of Advanced Education and Technology does not have a detailed infrastructure planning manual. It uses three high-level criteria (for example, increased access to programs) to judge the merits of projects. Since the Department assumed responsibility for providing capital grants to post-secondary institutions in 2005 (previously, the Department of Infrastructure and Transportation did this), it has started to increase its role in assessing program needs and providing direction to institutions. The Department is drafting an infrastructure planning manual.

Strong reliance on SIOs to determine their own regions' program needs—Departments should play bigger role

The Departments of Health and Wellness and Advanced Education and Technology are similar in that they rely heavily on the health authorities and post-secondary institutions to determine their own strategic direction for long-term program needs. Both Departments lack long-term planning processes that identify the specific needs for their programs, and then communicate these requirements to the SIOs. While SIOs should certainly take a large role in determining their strategic, long-term direction, the program departments should take a greater role than they currently do, to ensure that SIO long-term strategies match department long-term strategies for program delivery.

Both the Department of Health and Wellness and Advanced Education and Technology told us that they plan to improve their assessing of program needs in relation to their long-term program strategies. Once effective long-term program strategies exist, the departments will be better able to ensure that SIOs establish new program delivery aligned to provincial direction.

Departments have access to information that SIOs may not—should be used to prepare long-term strategic program needs

Further, program departments will have access to information that SIOs may not, such as demographic information prepared by government departments. Also, infrastructure needs do not exist in isolation, and program departments could help coordinate infrastructure needs within government. For example, buildings in urban areas depend on roads, water treatment facilities, and sewers. Affordable housing is needed to ensure that the necessary workforce has somewhere to live. The Department of Treasury Board should ensure the guidelines consider ways to integrate the analysis of infrastructure needs across program ministries, and determine what level of integration is necessary.

SIOs have varying processes

Since program departments in ministries with SIOs rely heavily on the SIO analysis of program need, we reviewed the processes to assess needs at select SIOs. They have varying degrees of sophistication in infrastructure planning processes. Some SIOs have well-defined processes, producing high-quality needs assessments, business cases, and detailed analysis of deferred maintenance requirements. In other cases, infrastructure planning processes are more informal and tend to rely on key individuals in the organization; the processes to produce needs assessments are not well-defined. The variance of analysis of information between SIOs may lead to differing quality of information for the program departments to use in preparing their ministry infrastructure planning submissions. Since the departments rely heavily on the SIO processes, inconsistent information could be used by the central infrastructure planning processes.

1.1.2 Reviewing alternatives

Program departments have varying practices in reviewing alternatives

Varying practices exist in evaluating alternatives to meet program needs. The Department of Infrastructure and Transportation business plan template has a section on reviewing alternatives, but this template is not required to be used. Also, much discretion exists on the level of detail needed in this template. The level of consistency of analysis across government would improve if the government-wide guidelines were more specific on what information on alternatives is needed in areas such as comparing building new space with renovating existing space; discussing what is achievable for different costs, based on different service delivery methods or different standards; and possible other funding sources.

Examples of good and bad practices noted

Of 20 business cases we examined, 11 had no review of alternatives and 2 had inadequate review of alternatives. In 7 business cases we reviewed that had sufficient review of alternatives, we saw some very good examples. For example, the University of Calgary Institute for Sustainable Energy, Environment and Economy business case had an in-depth discussion of alternatives. The University examined five options for meeting additional space requirements including increased use and expansion of existing space, leasing, constructing a new building, and a combination of renovation and construction. It rated each alternative and clearly showed the merit of the proposed solution.

1.1.3 Approving projects outside the normal process

Ministers sometimes approve projects before planning complete

As the Background section explained, ministers may need flexibility when announcing government plans to fund certain infrastructure projects. Planning for infrastructure takes time, which the government may not always have—it may need to react to an urgent need. Guidelines should define when this can occur, and how the process changes as a result.

Guidelines should say when this can occur

The Department of Treasury Board, taking direction from Treasury Board, should clarify when ministers can approve projects before planning is at the typical approval stage (meaning that the program department and the Department of Infrastructure and Transportation have analyzed program need and technical feasibility, including project costs).

To ensure a fair and disciplined process, approving projects outside the normal planning process should be limited to well-defined and rare cases.

Planning should still be completed

The Department of Treasury Board should also clarify requirements for projects approved outside the normal process to ensure that appropriate planning still proceeds before funds are spent to achieve value for money. Announcements made before the infrastructure planning process is complete should not negate the process (for example, program needs assessment prepared, alternatives reviewed, proper cost estimate prepared, and planning completed).

1.2 Guidelines—the Department of Infrastructure and Transportation

1.2.1 Approving cost estimates

No government-wide policy defines required accuracy of cost estimates in capital plan

There is no government-wide guideline that states the Department of Infrastructure and Transportation must ensure that a cost estimate is accurate to a specific level before it's approved or included in the government's 3-year Capital Plan. The Department of Infrastructure and Transportation's review of project cost estimates in the planning stages is inconsistent between program departments—guidelines would help ensure consistency. The Departments of Infrastructure and Transportation and Treasury Board are currently working on a draft proposal that defines the expected level of cost accuracy to be within +/-15% prior to inclusion in the capital plan.

Processes in program departments vary

For bridges, the Department of Infrastructure and Transportation includes projects in the 3-year Capital Plan for which detailed planning is complete. Using unit costs, which it updates quarterly, for the various parts of a project, the Department estimates an overall cost for each project. By comparing the estimates to tendered costs, the Department has determined that estimates in the 3-year Capital Plan are within +/-15% of actual cost.

The processes vary between the program ministries with SIOs. The Department of Infrastructure and Transportation has developed a disciplined process for schools by using standard cost-of space-per-student, to define government's level of funding. By contrast, the Department of Advanced Education has used a more ad hoc basis to approve post-secondary institutions' project scope and funding. This leads to the risk that cost estimates in the Capital Plan could change significantly because of inaccurate estimates or the scope of the projects not being well-defined.

Improvements occurring

Recently, the Department of Advanced Education and Technology and Infrastructure and Transportation have worked together to improve their processes for approving a post-secondary institution's cost estimate. To hold the institution to the scope of the project, a grant agreement between the Department of Advanced Education and Technology and the institution specifies the approved level of government funding, based on a defined project scope. The institution can increase the project scope only by getting other funding sources, or further ministerial approval. The Department of Infrastructure and Transportation has improved its review of the post-secondary institutions' cost estimates by developing better defined funding levels by type of facility.

Scope not well-defined and often costs understated—due to increases in project scope and imprecise estimates

When the scope of a project is not well-defined, an accurate cost estimate is not possible. An undefined scope can lead to constant changes, often adding additional components or features to the project, which can cause project costs to increase. Also, even without changes in scope, the cost estimates may be substantially inaccurate because of imprecision in the current estimate. Usually, an imprecise cost estimate goes up, not down. As a result, projects announced in the government's Capital Plan may be understated.

Implications of Capital Plan understating cost estimates

When costs are understated in the Capital Plan, subsequent years' capital dollars must be first directed to fund projects previously approved, instead of new priorities. And the government may provide funds for approved capital projects over a longer period than planned, (eg. fund a project over 5 years instead of 3), which causes cash management problems at SIOs relying on government funding to pay for construction costs. Further, it can result in project scope being cut to bring the project in on budget, which may not meet the original need.

Recent Capital Plans largely focused on more funds for existing projects

In the past three Capital Plans, the new funding announcements have largely been focused on providing more funds for increases in cost estimates for projects already announced. This is not surprising in the current Alberta environment, given the rapid escalation in construction costs. However, with improved systems, greater cost accuracy in the Capital Plan is possible.

1.3 Guidelines—program departments with SIOs

1.3.1 Communicating process and decisions to SIOs

Some SIOs don't receive criteria and don't understand infrastructure planning process

Program departments with SIOs have differing processes to inform SIOs of how the government infrastructure process works and the status of unfunded projects. Guidelines would help ensure SIOs understand the process well. Of 9 SIOs we reviewed, 5 post-secondary institutions said that they did not understand how the infrastructure planning process works or the criteria that government uses to evaluate which capital projects to fund. The Ministry of Advanced Education and Technology provides post-secondary institutions with the three high-level criteria it uses to evaluate projects with the institutions. However, it does not provide the more detailed criteria that government uses centrally to evaluate projects. Health authorities said that they understood the process to a greater degree, due to the Department of Health and Wellness providing a capital planning manual and a detailed list of criteria.

Program ministries should give SIOs more information on projects not currently funded

All 9 SIOs we reviewed are concerned that they do not receive sufficient information from program departments on the status of projects not approved. This makes it hard for them to do long-term planning. Program ministries cannot give SIOs exact information on where their project ranks or when or if it will be funded. It is hard to know what future years' priorities will be and department staff cannot speak for Treasury Board. The Department of Treasury Board should decide on a reasonable level of information that meets the needs of both parties. For example, program departments must at least confirm to SIOs whether the project is consistent with the long-term priorities of the ministry.

1.3.2 Funding and approving SIO business cases

SIOs not clear on stages in approval process or how funding works

Of 9 SIOs we reviewed, 4 said that they do not understand when they should be doing a preliminary needs assessment versus a complete business case with alternatives, what the approval process is at each stage, or who is to fund the analysis. Depending on the nature of a capital project, a preliminary needs assessment and a detailed business case can be expensive and difficult for organizations to fund out of operating dollars. This may make it difficult for an SIO to properly present a program need, increasing the risk of not receiving government funding. Government provides planning funds for some projects, but not others. SIOs are not clear when they can receive these funds or how to proceed if they do not—the guidelines should clarify the funding of preliminary needs assessments and business cases.

No well-defined process to approve SIOs' preliminary business cases

There's no well-defined process for departments to approve a project at a high-level before SIOs prepare a detailed business case. Some SIOs, with sufficient operating dollars, prepare both the preliminary needs assessment and the detailed business case without having the program department approve the project at a high level. Preparing a detailed business case on a major project is often very expensive, and organizations may be using operating dollars to prepare an analysis on projects that are not a current priority of the ministry. Guidelines should define a review process after the high-level needs assessment to help prevent this risk.

1.3.3 Example—Calgary South Hospital

Example of project approved without proper planning process

The Calgary South Hospital is an example of an infrastructure project that did not follow a disciplined planning process. Guidelines and compliance with them by all parties, including SIOs who often view themselves as independent of government and its processes, should help avoid this problem recurring.

Treasury Board originally approved the Calgary South Hospital with a cost estimate of $552.5 million in April 2005. The Department of Health and Wellness had not yet reviewed any detailed business case or needs assessment. The Department of Infrastructure and Transportation did not have any detailed information to assess whether the approved amount was appropriate.

In May 2007, the Department of Infrastructure and Transportation advised Treasury Board that it still did not have sufficient information from the Calgary Health Region for staff to review and advise government if the project represented good value for money. The Calgary Health Region had still not submitted either the programming study or detailed costing for the project so that the Ministers of Infrastructure and Transportation and Health and Wellness could review them. Shortly after, the Calgary Health Region provided a programming study on the project based on a scope greater than the government had approved. The Departments of Infrastructure and Transportation and Health and Wellness were able to do sufficient analysis to determine a reasonable cost estimate. In June 2007, the government approved $1.25 billion for the project—the original approved amount of $552.5 million, escalated to current costs by $697.5 million.

Department of Treasury Board—monitoring compliance with guidelines

Capital planning manual being developed

The Department of Treasury Board has an oversight role for the entire capital planning process. Therefore, it must ensure that ministries have well-understood and effective processes to present consistent and accurate information. The Department of Treasury Board has recognized that more direction is needed for departments and SIOs and plans to finalize a government-wide capital planning manual.

Monitoring processes needed

Given its oversight role, the Department of Treasury Board, working with the Department of Infrastructure and Transportation, must also develop ways to monitor the activities of the various parties providing information to the process. This will identify problems with consistency of information and help ensure Treasury Board has better information to decide where to spend government funds.

Draft guidelines

Draft guidelines exist, but improvements still needed

The Department of Infrastructure and Transportation is working with the Department of Treasury Board and program ministries on various draft documents to clarify roles and responsibilities, including the *Proposed Accountability Policy for Grant Funded Capital Projects*. This document better describes the various capital planning phases, milestones, deliverables, and responsibilities. If government approves it, it will improve the clarity of the infrastructure planning process significantly. The Department of Treasury Board, working with the Department of Infrastructure and Transportation, should consider the following improvements to this document or other supporting documents:

- Distinguish between the roles, timing, approvals, and funding for a high-level program needs assessment and a more detailed business case.
- Define when and how processes could vary. The Department of Treasury Board has noted, and we agree, that this process needs some flexibility and that the level of analysis must depend on the nature of various projects.
- Work with program departments to produce guidance on: the level of analysis needed for the departments' review and approval of submissions from SIOs; the level of communication to SIOs on the process and the status of unfunded projects; and what information on long-term strategies and demographic information program departments should give to SIOs.
- Finalize the definition of the level of accuracy needed for cost estimates before they are included in the capital plan and approval of funding to organizations.
- Work with Treasury Board to define when projects can be approved without going through the planning process, and how the planning process will still ensure value for money on these projects.

Implications and risks if recommendation not implemented

The cross-ministry prioritizing process uses information of varying quality, subject to varying degrees of approval. As a result, the government may fund projects that don't give Albertans the greatest value for money.

Approved costs for capital plans may be understated, causing significant budget problems, making it hard to fund new projects and to efficiently implement projects already approved.

Organizations may not understand the capital planning process, and thus may not plan efficiently for their long-term objectives.

2. Capital Plan needs to reduce deferred maintenance and consider life-cycle costs

Recommendation No. 2

We recommend that the Department of Treasury Board, in consultation with departments, develop objectives, timelines, and targets for reducing deferred maintenance, and include information on reducing deferred maintenance in the province's Capital Plan.

Background

Definition of maintenance

Maintenance is the act of keeping capital assets in acceptable condition. It includes preventive maintenance, normal repairs, replacement of parts and structural components, and other activities needed to preserve the asset so that it continues to provide acceptable service and achieves its expected life.

It doesn't include activities aimed at expanding the capacity of an asset or otherwise upgrading it to serve needs different from, or significantly greater than, the original needs.

Definition of deferred maintenance

If maintenance isn't done when it's necessary or scheduled, and instead is delayed, it is called deferred maintenance.

What's in government's deferred maintenance numbers

The government's deferred maintenance numbers include all non-routine major maintenance needed to maintain assets. They don't include any routine or preventive maintenance, such as painting. Departments and SIOs pay for routine and preventive maintenance from their operating budgets.

The government reports funding for non-routine major maintenance in the province's Capital Plan. Replacing a boiler or roof are examples of non-routine major maintenance. The government funds it as follows:

- Regular grants from the Infrastructure Maintenance Program.
- Capital for Emergent Projects grants, which is funding to pay for projects needed between planning cycles.
- Project-specific funding for upgrading or replacing facilities, which may include an existing deferred maintenance condition.

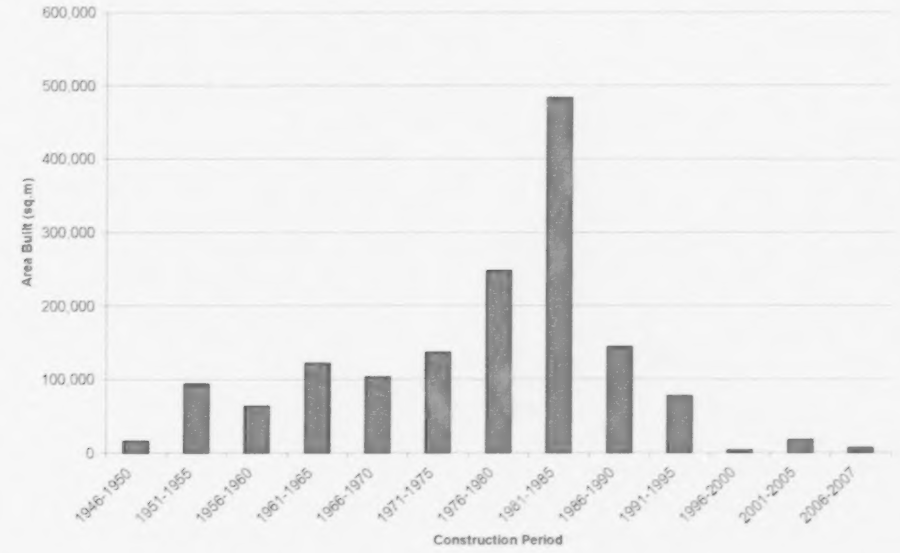
2% of replacement cost per year to maintain a building

Our review of literature on maintenance needs and discussion with staff of the Department of Infrastructure and Transportation indicates that annual costs to maintain a building are approximately 2% of its replacement cost. In the first 25 years, the cost is more likely to be in the 0.5% range of the replacement value. It increases to approximately 3% in the second 25 years, averaging roughly 2% over the 50-year-life of a building. The percentage can vary, and different buildings will have different maintenance requirements, but 2% seems reasonable until the government develops better information.[1]

High number of buildings 25 to 35 years old

The fact that maintenance costs increase in the second half of a building's life is significant for Alberta because the province had a significant building boom in the 1970s and 1980s (see chart below of government owned buildings greater than 1,000 m^2). These facilities are now 25 to 35 years old and are starting to move into the 3% annual cost range.

Construction Per 5-Year Period (Buildings Over 1000m²)[1]



FMC recommended that province develop a plan

In 2002, the Financial Management Commission (FMC) recommended that the province develop a plan to deal with deferred maintenance over the next five years, and identify the funding as part of the province's annual budget.

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[1] Alberta Infrastructure and Transportation, PowerPoint presentation, *Annual Renewal Cost Estimate for AIT Owned Buildings, May 23, 2007.*

Province accepted recommendation but never implemented it

The government accepted the recommendation in principle but stated that it would take more than five years to deal with all deferred maintenance. The government said that it would begin implementing the recommendation in *Budget 2003*, with full implementation in *Budget 2004*—but that never occurred.

Budget 2003 introduced three year capital plan

In *Budget 2003*, the government introduced a three-year capital plan for the province. The government acknowledged that spending reductions in the 1990s had reduced the funding of capital projects and that the level of funding was inadequate to meet the province's growing needs. It recognized rapid provincial growth and aging infrastructure meant that significant reinvestment was needed to maintain existing infrastructure.

Budget 2007 – Surplus Allocation Policy

In *Budget 2007*, the government announced that if the annual surplus is higher than the budget estimate, two-thirds of the unbudgeted surplus would go to capital with "capital maintenance and renewal" as the priority. "Capital maintenance" includes highway rehabilitation and the Infrastructure Maintenance Program grants for schools, post-secondary institutions and health facilities. "Capital renewal" includes major modernization projects that significantly rehabilitate or replace existing assets.

Criteria: the standards we used for our audit

1. The Department of Treasury Board should use a disciplined needs assessment and prioritizing process to recommend funding allocations to decision makers.

2. Complete, relevant, and accurate information should support the needs assessment and prioritizing processes.

3. The Capital Plan should include information on the current amount of deferred maintenance, and government's plan to reduce it.

Our audit findings

1. No specific objectives, timelines, or targets for reducing deferred maintenance

Government took steps in right direction, but still does not have objectives, timelines, or targets for reducing deferred maintenance

The government's announcement that it will use part of the unbudgeted surplus for capital maintenance and renewal is an important first step in recognizing the deferred maintenance problem. Recent experience has shown that unbudgeted surpluses can be large. Also, one of the Department of Treasury Board's priorities in developing a long-term capital plan is to deal with maintenance issues. However, these actions still do not establish what the objective is, or what the timelines and targets are, for reducing deferred maintenance.

Problems with the deferred maintenance numbers

2. Government information on deferred maintenance is incomplete

The current information on deferred maintenance needs improvement. These estimates of deferred maintenance are sometimes based on unverified or old estimates. Also, sometimes the numbers include deferred maintenance on facilities that will not incur maintenance costs because the facilities will likely be demolished or otherwise disposed of.

Improvements needed in systems

The government maintains information on maintenance needs and life-cycle costs in a few systems. But these systems have the following weaknesses:

1. They do not consistently produce good summary information on what the priorities are for reducing deferred maintenance. The government generally has good information on what the most urgent deferred maintenance is that must be funded. We have been told by all involved that, while the total maintenance dollars available have not been sufficient, the dollars that are provided are targeted to first deal with health and safety risks. We didn't identify any examples where deferred maintenance that caused a significant health and safety risk was not funded. But once urgent needs are met, better information is needed to determine which deferred maintenance should be funded next, to produce the best value for money.
2. For supported infrastructure (schools, post-secondary institutions and health facilities), not all data is complete or current. School and post-secondary institution data is captured in the information systems, but government inspections are current for only about 1/3 of post-secondary institutions. Health facilities data is not captured in the same information systems, although a pilot is currently underway to update health facilities numbers the same way as schools and post-secondary institutions. Government inspections, to verify the accuracy of the health facilities numbers, will start in 2007/08. Until then, data is based on what the SIOs have entered into the information systems, so both quality and timeliness of data varies. Given that health facilities information is not complete, the Department of Infrastructure and Transportation currently requires Health Authorities to provide an implementation plan for Infrastructure Maintenance Program grants prior to providing funds.
3. They do not produce consistently produce good summary information on the life-cycle maintenance needs of capital facilities or the current condition of each facility. A project is underway to put life-cycle cost information into the system.

Estimate of the deferred maintenance backlog, for selected infrastructure, as of March 31, 2007[2]

	(billions of dollars)
Provincial buildings	$ .1
Provincial highways	1.3
Provincial bridges	.1
Provincial water/water works management	.2
Schools	2.8
Health facilities	.4
Post-secondary institutions	1.2
Total	$ 6.1

The estimated replacement value of the infrastructure noted above is $94 billion. The government uses replacement value to calculate its performance measures[3] on the physical condition of its infrastructure.

Based on current funding levels, including the $350 million in additional funding to fix and maintain schools, health facilities, post-secondary institutions, and government buildings, announced on August 22, 2007, the deferred maintenance totals are still expected to grow. Further expected growth in deferred maintenance is based on the current methodology used to calculate capital maintenance requirements. The Department of Treasury Board, working with the Department of Infrastructure and Transportation, still needs to review this methodology.

3. Little public information on deferred maintenance

Government 3-year Capital Plan does not discuss deferred maintenance

The government introduced a three year Capital Plan in *Budget 2003*, and distinguished funding for preserving existing infrastructure from funding for new construction. However, readers of the Capital Plan wouldn't know of the deferred maintenance backlog or its size because the Capital Plan didn't discuss it. So readers couldn't assess the impact that preservation funding would have on the deferred maintenance backlog. Further, subsequent capital plans removed the reference to preservation, and still did not discuss deferred maintenance.

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[2] Section 4C report, Capital Maintenance Program, submitted for 2008–2011 Capital Plan.

[3] See Goal 14 in *Measuring Up*, "Alberta will have a supportive and sustainable infrastructure that promotes growth and enhances quality of life."

Some SIOs disclose information on deferred maintenance

No policy requires departments or SIOs to disclose the amount of deferred maintenance. Some post-secondary institutions voluntarily report it in their financial statements and annual reports. Some departments have also included information in their business plans or annual reports. These types of disclosures are to be encouraged—they give readers information on the risks to service delivery in these organizations.

Disclosing qualitative information, including risks, would be helpful

Departments are working on improving the quality and completeness of the deferred maintenance totals and capital maintenance requirements. Providing qualitative (instead of quantitative) public disclosure would be helpful until more accurate information exists, as long as it informs the public about the risks associated with deferred maintenance, and on the plan to reduce it.

Standard setters look at ways to provide better disclosure on deferred maintenance

Standard setters have recognized the importance of providing information on deferred maintenance. The Canadian Public Sector Accounting Standards Board is looking at ways to promote better disclosure. Deferred maintenance reporting has been required for US federally owned property, plant and equipment since 1996. The purpose of the disclosure is to report on the government's stewardship and responsibility for the resources the public entrusts to it.

Disclosure on infrastructure condition exists

The government does have some disclosure on the condition of its infrastructure. One of its goals is to have supportive and sustainable infrastructure that promotes growth and enhances quality of life. The measure of this goal is the physical condition of buildings, highways and dams and irrigation canals. The Department of Infrastructure and Transportation also has some disclosure on the functional adequacy of the government's infrastructure.

Implications and risks if recommendation not implemented
Infrastructure will cost more than it should over the life of the asset and may have to be replaced prematurely.

Public safety and effective program delivery may be at risk.

Recommendation No. 3

We recommend that the Department of Treasury Board:

- **require life-cycle costing information for proposed infrastructure projects, and**
- **establish a process to ensure public infrastructure assets are properly maintained over their life.**

Background

Life-cycle costing is a method to assess total costs of a project. It lets Treasury Board, when deciding what projects to fund, consider both the project's initial construction costs and the associated program and maintenance costs over its expected life. This will better allow Treasury Board to compare alternatives for providing a government program.

For our discussion of the recommendation, we split life-cycle costs into two parts: first, the non-routine major maintenance costs of the infrastructure, and second, all other costs to run the government program and maintain and operate the infrastructure, such as payroll expenses for employees and routine maintenance.

Criteria: the standards we used for our audit

The costs of providing the government program and maintaining facilities should be estimated for capital projects' expected useful life when projects are assessed.

Infrastructure maintenance should occur when needed to protect the service life of the asset; it should not be deferred past that time.

Our audit findings

Life-cycle information not required

The Department of Treasury Board does not require information on life-cycle costs of proposed projects, and therefore does not have complete information on these costs before Treasury Board approves projects. The optional Department of Infrastructure and Transportation business case template has certain sections requiring some, but not all, of this information (e.g. payroll). However, it does not specifically discuss providing complete life-cycle costs, including all program costs and non-routine major maintenance.

Life-cycle costs should be known before approving the project

In contrast, the Department of Infrastructure and Transportation *Public-Private Partnership (P3) Business Case Template* requires full life-cycle costing, and lists several different annual costs to consider. Because P3s are long-term arrangements (30 years for the Edmonton Southeast Ring Road), the government has developed a disciplined approach to consider long-term costs. The Department of Treasury Board should establish the appropriate thresholds as to when life-cycle information is needed, and to what level of detail, for all projects, not just P3s.

2 main benefits to life-cycle costs

There are two main benefits to having life-cycle costing before approving a project. First, decision makers can make better decisions when they know all costs and benefits of a project, not just the construction costs. Second, they can make better decisions about funding those costs.

Better information on program and facility operating costs means greater clarity on future funding requirements. SIOs get a standard dollar amount per square metre, adjusted for certain factors, to cover facility operating costs. SIOs told us that funds provided are insufficient. Better information on facility operating costs will show if this shortfall exists. Then, either the Department can increase funding, or the SIO can seek other funds.

Lack of reliable funding for non-routine major maintenance

As page 52 of this report explains, the government does not have complete information on non-routine major maintenance life-cycle costs. As the Background section explains on page 49, organizations get funding for this major maintenance through less predictable grant programs.

Maintenance funding decreasing for post-secondary institutions

Total maintenance funding to post-secondary institutions from the Infrastructure Maintenance Program has remained constant since 2005, but the number of facilities has increased. So maintenance funding per square meter has decreased, despite high inflation.

Maintenance funding not meeting industry standard

The current maintenance funding level is not meeting the industry standard of 2% of capital replacement value needed to plan for anticipated asset renewal[4]. It is significantly below the amount needed to reduce the deferred maintenance backlog noted in the table on page 53.

Roads are costing more to fix

Roads are deteriorating faster and are costing more to fix. In 2006, the Department of Infrastructure and Transportation made a presentation to Treasury Board on current funding levels and the expected condition of the roads based on this funding. It expects the percentage of roads in poor condition to rise from 14% to 23%, and the level of deferred maintenance to rise from $1.7 billion to $3.8 billion in 5 years.

Clarity needed on funding of post-secondary institutions non routine maintenance

In the case of post-secondary institutions, which have funding sources in addition to government, the Department of Treasury Board should clarify government's policy for funding non-routine major maintenance. The Department of Advanced Education and Technology provides some funding, and expects the institutions to also provide some funding. But there is no clarity on what the institutions are expected to fund.

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[4] page 45, the American Public Works Association Research Foundation, 1992, "Plan Predict Prevent. How to reinvest in public buildings"

No disciplined process for ensuring maintaining occurs when it should

Government's processes for maintaining owned infrastructure assets that are not public private partnerships (P3s) do not follow a disciplined maintenance regime. The government could use processes similar to its P3 processes for non-routine major maintenance on infrastructure it owns and manages. For example, on the Southeast Edmonton Ring Road project, major maintenance is built into the 30-year contract with the private partners.

Assets deteriorate exponentially, increasing importance of regular maintenance

The cost to maintain capital over its life increases. Conventional wisdom is that assets deteriorate exponentially over time. As a result, the cost of repairs drastically increases. One theory is that, as an asset deteriorates through the different condition stages (good, fair and poor), the cost of repairs increases fivefold at each stage. So it is important, and ultimately cheaper, to maintain as much infrastructure as possible in the "good" category.

Implications and risks if recommendation not implemented

Without knowing the full life-cycle costs, Treasury Board may approve funding an infrastructure asset that commits government to future program costs and maintenance costs that may not be the best use of funds—or even affordable.

Infrastructure may cost more than it should over the life of the asset and may have to be replaced prematurely.

Public safety and effective program delivery may be at risk.

3. Process to prioritize individual infrastructure projects needs improving

Recommendation No. 4

We recommend that the Department of Treasury Board improve the process to evaluate proposed infrastructure projects that ministries submit.

Background

Criteria used to prioritize capital projects

The Deputy Minister's Capital Planning Committee has developed criteria that the Department of Treasury Board and program ministries use to grade projects, based on factors such as the impact or benefit of a project and whether it will increase use and capacity of a program. A project's score serves as a guide in prioritizing it with other projects.

Individual departments complete the grading of the projects within their ministry and develop a prioritized list. Staff from the departments then get together as part of the Capital Prioritization Task Group to compare projects across ministries and draft potential funding scenarios for the Deputy Ministers Capital Planning Committee. This committee then reviews the scenarios, updates them, and makes recommendations to Treasury Capital Planning Committee.

Criteria: the standard we used for our audit

The Department should use a disciplined infrastructure-needs assessment and prioritizing process to recommend funding allocations to decision makers.

Information systems should support the infrastructure planning processes.

Our audit findings

Process to ensure consistency in grading projects could be improved

The Department of Treasury Board should improve the process to ensure consistency in the grading of projects. Grading projects based on criteria that, by their nature, involve significant judgment can lead to inconsistencies. The Department has a guidance document that discusses how to grade the projects. Although a process used to exist in which the Capital Prioritization Task Group would discuss the grading of each priority project to ensure consistency, the process was revised.

Instead, there is now a peer-review process in which two staff members from different departments compare their projects to ensure consistent treatment. This helps improve consistency, but different groups could still come up with different gradings for the same project. To mitigate this risk, a senior advisor in the Department of Treasury Board does cursory reviews to spot anomalies. However, there is no documented evidence of this review or of changes to grades as a result.

In oversight role, Department of Treasury Board could add credibility to process

In its oversight role, the Department of Treasury Board should consider how to add credibility to the process. The Department could improve the consistency of the process by reviewing several examples as a group, or by making the senior advisory review a more formal and effective procedure.

Criteria should be reviewed

As part of the Department of Treasury Board's review of the entire planning process, it should review the criteria used to grade the projects to see if changes are needed. For example, one criterion to reconsider is the awarding of points for projects with a business case. All major infrastructure projects should be required to have a business case—this should not be a factor that increases the merit of one project versus another.

Information systems should be updated

Updating infrastructure planning information systems would also help improve the efficiency and effectiveness of the process. This system does not meet all user needs. For example, it:

- does not produce summary information for Treasury Board.
- relies heavily on *Excel* spreadsheets to manipulate data for reporting, which is both inefficient and can be prone to errors without proper safeguards.
- cannot produce historical reports.

Once the Ministry of Treasury Board has defined the new infrastructure planning processes and the information requirements of all parties, it should update the information planning systems.

Implications and risks if recommendation not implemented

Projects with greater value for money may be deferred in favour of projects with less benefit.

Recommendation No. 5

We recommend that the Department of Treasury Board, working with the Treasury Capital Planning Committee, examine how the current information provided to Treasury Board can be improved.

Background

The Department of Treasury Board prepares information for the Deputy Ministers' Capital Planning Committee (DMCPC). The DMCPC then provides information to Treasury Capital Planning Committee, which then provides information to Treasury Board. Treasury Capital Planning Committee and Treasury Board use this information, along with information from departments and other sources, to approve funding for individual infrastructure projects or total funding by ministry.

Criterion: the standard we used for our audit

The Department of Treasury Board should give Treasury Board summary information on Alberta's infrastructure needs.

Our audit findings

Treasury Board needs summary information on projects

There aren't well established requirements for information the Department provides to Treasury Board. For DMCPC identified priority projects, Treasury Board gets a list of the projects and the estimate of costs; it does not get summary information on what factors caused the project to be a priority unless it requests the information. Treasury Board would also have various other information that it has requested on individual projects on an ad hoc basis. In some cases, Treasury Board may receive lots of information on projects. The

DMCPC also provides various other information to Treasury Board, such as possible funding scenarios and effects of escalating costs on existing approved projects.

Level of information needed depends on decisions being made

Treasury Board members do not have time to review significant amounts of information on a wide range of projects. However, if they are making decisions on individual projects or totals by ministries, they should have good summary information to differentiate between projects or ministries. The level of detail that Treasury Board requires will depend on the level of decision it is making. Treasury Board would need greater detail if it is deciding on individual projects, than if it is deciding on funding levels between ministries.

The Department of Treasury Board, taking direction from the Treasury Capital Planning Committee, should define what is appropriate for summary information. The key is not to provide more information to Treasury Board, but to provide key indicators of program need that will easily allow Treasury Board to decide relative priorities. For example, if Treasury Board is comparing the relative need of two hospitals, summary information might include estimated shortfalls of beds today and in five years.

Summary information details

The Department of Treasury Board should consider developing summary information for Treasury Board on:

- The program need and the results on program delivery if Treasury Board rejects the proposal.
- The alternatives the organization considered to deal with the identified need, or at least confirmation that it properly considered alternatives. Alternatives should include the different standards that different costs would result in.
- The life-cycle costs associated with the infrastructure project.
- The accuracy of the expected costs.

Summary information on deferred maintenance can be improved

The Department of Treasury Board should also improve the summary information available on deferred maintenance. Currently, Treasury Board receives some summary information on deferred maintenance levels, and the expected increases in deferred maintenance based on current funding levels. Improvements to the information should include:

- more qualitative analysis on the effect of deferring maintenance (for example, health and safety risks, effect on the life of buildings, premature need for new buildings, risks to program delivery).
- more information on the result of deferring maintenance on the overall cost of capital.

Implications and risks if recommendation not implemented

Without good summary information, Treasury Board may make the wrong decision and approve funding for projects with less need and reject funding for projects with greater need.

Child intervention services

1. Summary

Intervention services provided if child's survival, safety or development at risk

The Ministry of Children's Services offers a range of services and programs designed to support families and communities, enabling them to provide nurturing, safe environments for their children. Child intervention services are provided to children and families when it becomes clear that a child's survival, security and development may be at risk. In this audit, we examined systems that the Department of Children's Services and the 10 Child and Family Services Authorities (Authorities) in Alberta use to deliver child intervention services. We assessed if the systems are adequate, well designed, and operating as intended.

No system can absolutely guarantee safety

The systems we examined were designed to support the goals and broad traditions of Canadian child welfare practice—child safety, child well-being, permanence, and family and community support. However, no system can absolutely guarantee the safety of all children at all times, whether in government care or not. The unpredictable nature of human behaviour has caused tragedies in the best designed and operating systems.

More than one way to respond to a family in need

To support its child intervention services goals, the Department adopted the Differential Response model, under which caseworkers assess children and family suitability for services in the family enhancement stream—where the caseworker works with the family to attempt to keep them together—or the protection stream, which takes a more direct role in the child's care, such as court-ordered in-home supervision, or removal from the family.

Authorities use this Differential Response model to provide services to children and families in need across Alberta including some, but not all First Nations communities. Delegated First Nations Agencies (Agencies) are funded by the Government of Canada and provide services to children and families in most First Nations communities.

Systems are comprehensive but could be improved

We conclude that the Department and the Authorities have comprehensive and generally well-designed systems to deliver child intervention services. These systems are operating as intended, but could be improved. We make three recommendations to the Department and two recommendations to the Authorities to improve their systems.

Five recommendations made

These recommendations are to:

1. review and update standards.
2. evaluate accreditation processes for licensed facilities.
3. improve compliance monitoring processes by the Department.
4. improve training processes and feedback to caseworkers on compliance monitoring results.
5. improve coordination of monitoring activities between Authorities and the Department.

New Casework Practice Model

The Department and Authorities are currently testing a new Casework Practice Model that is designed to bring consistency to practice across Alberta, and support the shifts in casework practice necessary to meet the full intent of the Child, Youth and Family Enhancement Act. The new Casework Practice Model is intended to provide effective and responsive interventions that can be measured to ensure consistent practice and improved outcomes for children and families. Full implementation is expected during 2008.

Recommendations compatible with new Casework Practice Model

We understand that the Casework Practice Model will be supported by new technology and provide automated mechanisms and guidance for all aspects of case management, from a client's initial contact with the Authority or Agency to closure or resolution of matters. We have not audited the new model as it is still in the testing phase. Our five recommendations are intended to be compatible with, yet not dependent on the full implementation of, the Casework Practice Model.

Standards define a minimum performance level and are focused on child safety

The Department developed standards to define a minimum acceptable level of required performance for providing services. The standards focus primarily on child safety and include such areas as initially placing of children into care, providing basic needs, conducting investigations or making other significant decisions. The Department monitors Authorities' and Agencies' compliance to the standards. Also, Authorities self-monitor their compliance with the standards.

Standards need to be consistent with legislation and organizational goals and include outcomes

The Department should review child intervention standards to ensure they include outcomes such as a child's well-being, are consistent with legislation and organizational goals, and compatible with the new Casework Practice Model. The current standards do not include minimum requirements for the family enhancement stream. Concise requirements will provide guidance to caseworkers, as well as assist the Department and Authorities to fully assess the impact of family enhancement services on available human and technical resources. Also, standards need to include more consideration of outcomes such as the well-being and permanency of children who are already in care.

Department relies on accreditation bodies

Authorities contract with service providers, such as group homes and secure facilities. All facilities must be licensed before a child is placed there. In order to be licensed, service providers must be accredited by a recognized accrediting body. The accreditation process is designed to give the Department and Authorities assurance that service providers meets minimum requirements, such as the provision of a safe and nurturing environment.

Different accrediting bodies have different requirements

Currently, the Department has approved four accrediting bodies and allows service providers to choose by whom to be accredited. Each accrediting body has different requirements and there is a risk that a service provider may choose to be accredited on the basis of criteria not necessarily appropriate to their specific programs. The Department needs to undertake a review of this process to ensure that all service providers are accredited by the most appropriate accrediting body and that the Department and Authority is receiving the assurance that they require.

Department monitoring processes

The Department randomly selects case-files[1] from Authorities and Agencies to review for compliance with standards. These case-files are reviewed at different times by a Department monitoring group and an Authority monitoring group. This process could be enhanced by including some risk-based sampling to ensure that identified high-risk issues receive the appropriate amount of oversight.

Feedback to and from caseworkers

Results from Department and Authority monitoring groups are reported to the Department and the Authorities. Caseworkers consistently told us that there was limited opportunity to demonstrate or explain any areas of apparent non-compliance to standards, and the benefits to the client of a case-file review were not always evident. The monitoring process could be strengthened by allowing caseworkers more opportunity to provide and receive post-monitoring feedback prior to finalization of the reporting process.

Caseworker preparation of case-files

Authorities should provide more guidance to caseworkers for case-file preparation and maintenance. Caseworkers and their supervisors consistently told us that administrative burden affected their ability to provide client services—they felt overburdened by paper. Authorities should work in conjunction with the Department to satisfy competing operational and administrative requirements.

Coordinate monitoring of service providers

Authorities monitor contracted service providers by licensing facilities, enforcing terms and conditions of contracts, and monitoring compliance with legislation, regulations and standards. The Authorities need to improve the coordination of monitoring processes, ensure service providers are receiving sufficient oversight and share that information with the Department. The Department needs to analyze service provider information and coordinate actions relating to possible trends or issues. For example, issues may arise with service providers operating facilities in more than one Authority or Authorities placing clients in facilities outside of their jurisdiction. These issues may include things such as service provider non-compliance, or challenges in recruiting and retaining staff.

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[1] A case-file is a historical record of all actions taken respecting a child under the family enhancement or protection stream. There is one case-file opened for each child that enters either stream.

Gaps in service between First Nations Communities and others

We assessed Department systems for monitoring Agencies providing services for First Nations communities. We did not directly examine Agencies' systems because we are not their auditors and they are federally funded organizations. We consulted with Agencies and learned about their relationship with the Department of Indian and Northern Affairs Canada. (INAC). Agencies must comply with Alberta legislation, regulations and standards. However, funding provided by INAC may not be sufficient to allow Agencies to provide comparable services to those available to other Alberta children.[2]

Auditor General of Canada is conducting an audit of the First Nations Child and Family Services Program

The Agencies told us that they seek only to provide culturally sensitive services equal and comparable to those available to non-First Nations children. The extent to which this goal may be attained is beyond the scope of this audit. However, we understand that the Auditor General of Canada is conducting an audit of the First Nations Child and Family Services Program and we will support that process to the extent we can. We further understand that public reporting by the Auditor General of Canada is anticipated in 2008 and would typically include publication on their website.[3]

2. Audit objectives and scope

2.1 Our audit objectives

Legislation, regulations, and standards govern services

Services to Alberta's children in need are governed by legislation[4], regulations and standards[5]. Our objectives for this audit were to assess whether the Department and Child and Family Services Authorities (Authorities) have established effective systems to:

- communicate legislation, regulations and standards to Authorities and Agencies.
- monitor and assess compliance with legislation, regulations and standards by Authorities and Agencies.
- act on non-compliance, ensure standards are current and train staff.

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[2] In particular, funding gaps have been identified for Family Enhancement services, and services respecting children with disabilities. Refer to Alberta Children's Services Business Plan 2006-2007 at page 95, and to the Wen:De Report at http://www.fncfcs.com

[3] Refer to www.oag-bvg.gc.ca

[4] In particular, the *Child, Youth and Family Enhancement Act*, introduced in 2004

[5] See Table 5 in Section 4.2

In examining these systems, we assessed if:

- adequate systems exist to support the child intervention program goals.
- the systems are well designed.
- the systems operate as intended.

2.2 Our scope

The scope for this audit was to examine the:

- roles and responsibilities of the Department, Authorities, Agencies, service providers and other stakeholders.
- Department and Authority systems used to monitor compliance with legislation, regulations, and standards.
- Department and Authority systems used to act on and resolve issues of non-compliance.

Interviewed staff, management, Board members, conducted survey and reviewed documents

We completed our field audit work between February and July 2007, examining practices and results for the period April 1, 2006 to March 31, 2007. Our field work took us to all 10 Authorities and the Department's corporate offices in Edmonton. We conducted 69 interviews of front-line workers, management and Board Members and reviewed nearly 150 case-files. We also interviewed stakeholders of the child intervention system, such as the Alberta Foster Parents Association, the Alberta College of Social Workers and the Alberta Association of Services for Children and Families. We sent a voluntary survey questionnaire to 1,000 front-line caseworkers and 76 members of Authority Boards and 10 Chief Executive Officers—and received about 70% back.

Matters beyond the scope of our audit

We did not assess if children in the government's care are safe at all times in all places, and have permanent nurturing relationships. That is the ongoing responsibility of the Minister and her designate, the Director, Child, Youth and Family Enhancement Act and her delegates. We did not audit Delegated First Nations Agencies' records, but did meet with several Agencies to obtain their input. In addition, we did not audit the Department's licensing and monitoring of adoption agencies, nor did we assess the validity of decisions made in special case review findings.

3. Overview of stakeholders

3.1 The children and families

Children and families may face many challenges

Many situations put children in need, including physical and sexual abuse, neglect, drug abuse, fetal alcohol spectrum disorder and exposure to family violence or mental health issues. Many of these children have high physical and emotional needs. Some have been in the child protection system for most of their lives. Children and families in need receive the following child intervention services:

Family enhancement services maintain family

- **Family enhancement**—early intervention and support to help a family to stay together while adequately caring for a child. This is a relatively new initiative, introduced in November 2004.

Child protection services if child safety is at risk

- **Child protection**—care of children who require more direct temporary or long-term care such as court-ordered in-home supervision or removal from the family to a safe environment.

Adoption and private guardianship

- **Supports for Permanency**—provides financial support to eligible families who adopt or obtain private guardianship of children in permanent government care.

Ministry provides services to 60,000 children yearly

Approximately 60,000 children receive various child intervention services in a typical year. During any year, files are opened and closed as problems are solved; families get back together, children are adopted or become adults. The number of children receiving services changes on a daily basis. At December 31, 2006, there were approximately 15,000 children receiving services – with the majority of them being cared for in the child protection stream.

Different Authorities have different delivery models for services

Different Authorities provide different models of service delivery—larger centres have multiple-client residential facilities that also service clients from other jurisdictions. Also, some regions tend to contract for services rather than run facilities themselves with their own employees. The following table represents a snapshot at December 31, 2006 of children receiving services under the three programs.

Table 1—Children receiving services at December 31, 2006

Authority	Family Enhancement	Supports for permanency	Child Protection	Totals
Southwest Alberta	216	67	348	631
Southeast Alberta	169	22	234	425
Calgary	974	392	2,670	4,036
Central Alberta	185	130	632	947
East Central Alberta	55	39	175	269
Edmonton and area	1,190	561	3,308	5,059
North Central Alberta	151	116	650	917
Northwest Alberta	142	58	349	549
Northeast Alberta	70	7	139	216
Métis Settlements	44	18	67	129
Delegated First Nations	185	43	1,863	2,091
Totals	**3,381**	**1453**	**10,435**	**15,269**

55% of children in protection are Aboriginal

Authorities provide services to both Aboriginal and non-Aboriginal children in their jurisdictions. Agencies provide services exclusively to members of their communities. The Department's data at December 31, 2006, indicates that:

- 5,757 (55%) of the 10,435 children in protection were Aboriginal
- 930 (27%) of the 3,381 children in family enhancement were Aboriginal
- 355 (24%) of the 1,453 children in supports for permanency were Aboriginal

3.2 Caseworkers and Supervisors

Professional staff have a difficult job and are key for effective services

Social work relies on decisions made on the basis of judgement by experienced professionals. This is a challenging, yet rewarding field. The Child Welfare League of America (CWLA)[6] states that "People are the key ingredient in an effective child welfare system. Child welfare work is labour intensive. Caseworkers must be able to engage families through face-to-face contacts, assess the safety of children at risk of harm, monitor case progress, ensure that essential services and supports are provided, and facilitate the attainment of the desired permanency plan. This cannot be done if workers are unable to spend quality time with children, families, and caregivers[7]".

Table 2 shows the distribution of social workers, support staff and supervisors serving Alberta's children in need. Authorities use different combinations of contracted service providers and employees[8]:

Different delivery models result in different employee models

Table 2—-Child intervention staff by region

Authority	Total workers and supervisors
Southwest Alberta	121
Southeast Alberta	76
Calgary	479
Central Alberta	168
East Central Alberta	43
Edmonton and area	762
North Central Alberta	148
Northwest Alberta	124
Northeast Alberta	27
Métis Settlements	26
Totals	**1,974[9]**

In our survey, we asked respondents to self-report their highest level of education and training. The following table represents the results from 690 respondents:

77% of professional staff have a Diploma, Bachelor or Master of Social work

Table 3—Child intervention staff by education level attained

Education Level	Respondents	% of total
Bachelor of Social Work	344	50 %
Master of Social Work	39	6 %
Diploma in Social Work	145	21%
Bachelor of Arts	97	14 %
Other	65	9 %
Totals	**690**	**100 %**

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[6] Refer to http://www.cwla.org/

[7] Refer to http://www.cwla.org/programs/standards/caseloadstandards.htm

[8] Southwest Alberta, Central Alberta, Edmonton and North Central operate government owned facilities, or contract with service providers to operate facilities.

[9] Approximately 1,200 of the 1,974 staff are Registered Social Workers (see 3.12.4)

3.3 Facility based caregivers

Authorities and Agencies place children in a variety of settings, depending on the children's needs. All settings, except kinship care, must be licensed pursuant to the Residential Facilities Licensing Regulation and must comply with legislation, regulations and standards set by the Ministry. Types of facilities are:

- kinship care—relatives or others who have a significant relationship with a child or children and demonstrate a desire, willingness and ability to provide a stable placement.
- foster care—a family for a child whose birth family is unwilling or unable to properly care for the child. Authorities work directly with foster families or foster home agencies.
- group home—group placements staffed to provide assessments, stabilization and integration services.
- residential treatment facilities—group placement staffed to provide clinical interventions for children needing intensive individual change-oriented services.
- secure services facilities—group placement as prescribed in the Regulations, staff to provide security, assessment and planning for children under a secure treatment certificate, order or confinement.
- supported independent living arrangements—a youth is accommodated in an individual arrangement and support services are provided as necessary to maintain the placement.

Cost per child is typically $3,400 per month, but may vary

Authorities contract with service providers to provide the above placement settings for children in need. Direct placement costs average approximately $3,400 per month, but in unusual cases have risen to over $1,700 per day.

Children new to the system placed in different settings, or existing children in care moved between settings

In 2006, there were:

Table 4—Placements–2006

Type of care	Number of placements[10]
Private foster homes	2,354
Agency foster homes	1,819
Extended family members	1,749
Residential treatment facilities	1,313
Kinship care	1,282
Adoptions / permanent placements	335
Secure facilities	204

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[10] May include multiple placements of a child

3.4 Minister of Children's Services

Minister's responsibilities

Under section 8 of the *Child and Family Services Authorities Act*, the Minister of Children's Services is responsible to:

- set objectives and strategic direction.
- establish policies and standards.
- monitor and assess Authorities in the carrying out of their responsibilities.
- allocate funding and other resources to Authorities.
- provide administrative and other support services to Authorities.

3.5 Director, Child, Youth and Family Enhancement Act

Director responsible for intervention services

Under the *Child, Youth and Family Enhancement Act*, the Minister of Children's Services designates the Director to be responsible for child intervention services. The Director then delegates duties and powers to government employees working in the Authorities. The Director also delegates duties and powers to staff working in Delegated First Nation Agencies (see 3.8 below). Authorities and Agencies may in turn designate certain non-legislative based duties to foster parents or contracted service providers. However, the Act makes the Director ultimately responsible to protect the child and to pursue the child's best interests.

3.6 Department of Children's Services

Department helps Minister and Director to fulfill their duties

The Department helps the Minister and the Director to fulfill their duties by:

- setting quality assurance standards.
- developing program policy and services.
- managing provincial programs.
- providing guidance and expertise in accountability and program delivery.
- providing training, case consultation, and guidance.
- monitoring compliance to legislation, regulations and standards.
- evaluating outcomes.

3.7 Child and Family Services Authorities

Authorities deliver services to children in need

Ten regional Authorities across Alberta are accountable to the Minister of Children's Services and are responsible for:

- promoting the safety, security, well-being and integrity of children, families and other members of the community.
- planning and managing services to children and families.
- prioritizing and allocating resources.
- ongoing assessment of social and other related needs of the Authority.
- ensuring reasonable access to quality child and family services.
- working with other Authorities, the Government and other organizations to co-ordinate the provision of child and family services.
- monitoring compliance with legislation, regulations and standards in their Authority.

3.8 Delegated First Nation Agencies (Agencies)

Agencies provide services in First Nations Communities

There are 47 First Nations in Alberta—40 of them receive child intervention services from 18 Agencies based on agreements with the Minister, pursuant to the *Child, Youth and Family Enhancement Act*. Authorities or other governments provide child intervention services to the remaining 7 First Nations. Under tri-partite agreements (First Nations, Government of Alberta and Government of Canada), Agencies must comply with Alberta legislation, regulations and standards.

Aboriginal children make up 55% of children in protection

Aboriginal children make up 55% of Alberta's children in protection, yet make up only about 15% of all Alberta's children. First Nations are eager to attain sufficient resources to provide equal and comparable services as those available to other Alberta children. We understand that recent changes to the federal funding model are designed to eliminate those gaps, although details of specific funding levels are still being developed. We also understand that the Department played a critical role in the development of this initiative.

Authorities provide services to First Nations living away from their communities

Authorities provide services to First Nations children and families living away from their communities, and allocate costs for these services between the Governments of Canada and Alberta. In these cases, the Authority must involve a person designated by the First Nation's council in planning the services for the child and family. The First Nation designate will work with the Authority to plan the most appropriate services for the child and family. This ensures meaningful First Nations involvement at the earliest stage of child intervention services.

3.9 Social Care Facilities Review Committee

Visits facilities to assess client satisfaction

The Committee may investigate matters at the request of the Minister, is chaired by an MLA, has eleven private citizens from various urban and rural backgrounds, and is accountable to the Minister. The Review Committee has a 5-year plan to visit each provincially funded social care facility in Alberta. A total of about 225 visits are accomplished annually. It publishes an annual report[11]

3.10 Child and Youth Advocate

Advocate represents children

The Advocate represents the rights, interests and viewpoints of children receiving child intervention services and supports individuals and organizations interested in advocating for vulnerable children and families. A new program, Legal Representation for Children and Youth ensures legal representation for children receiving child intervention services. The Advocate reports directly to the Minister, provides a quarterly report to the Minister and tables an annual report[12] in the Legislative Assembly.

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[11] Refer to: www.child.gov.ab.ca/scfrc.

[12] Refer to: www.advocate.gov.ab.ca.

3.11 Child, Youth and Family Enhancement Appeal Panel

Appeal Panel reviews Director's decisions on appeal

The Minister appoints the members to this Panel. It is a quasi-judicial administrative tribunal that independently reviews decisions made by caseworkers providing services under the *Child, Youth and Family Enhancement Act*. It may confirm, reverse or vary rulings or decisions made under this Act and reports directly to the Minister through its Chair.

3.12 Other Stakeholders

3.12.1 Registered accrediting bodies

Ministry recognizes four accreditation bodies

The Ministry recognizes four accrediting bodies and requires that residential facilities and contracted service providers providing child intervention services be accredited to ensure they meet a reasonable and established standard for programs and services. Authorities' contract management staff monitor whether residential facilities and contracted service providers obtain and maintain accreditation. The four accrediting bodies each use different criteria in assessing programs and services:

- Canadian Accreditation Council on Human Services. [13]
- Commission on Accreditation of Rehabilitation Facilities.[14]
- Canadian Council on Health Services Accreditation.[15]
- Council on Accreditation on Services for Children and Families Inc.[16]

3.12.2 Alberta Foster Parent Association

Provides training to foster parents

This is a not-for-profit association with a goal to support foster parents in Alberta. It has 10 regional district associations around Alberta, is funded by the Department and supported by donations from the public. The Association offers programs to train and support foster parents.

3.12.3 Alberta Association of Services for Children and Families

Association of service providers

This association consists of approximately 100 service provider agencies, of which approximately 75% are not-for-profit agencies and the remainder are for-profit enterprises. It is affiliated with the Canadian Accreditation Council on Human Services. (See paragraph 3.13.1) and works to promotes attitudes, practices and conditions that contribute to quality services for vulnerable children and families.

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[13] Refer to http://www.cacohs.com/_index/index.htm

[14] Refer to http://www.carf.org

[15] Refer to http://www.cchsa.ca/default.aspx

[16] Refer to http://www.coanet.org/front3/index.cfm

3.12.4 Alberta College of Social Workers

Social workers are governed by professional requirements and legislation

The College is the regulatory body for the profession of social work in Alberta, and is legislated by the *Health Professions Act*. It has a membership base of approximately 5,700 Registered Social Workers (RSWs). RSWs are required to adhere to professional ethics requirements and can be sanctioned by the College if inappropriate activities or behaviour is substantiated through investigation. Approximately 1,200 Authority and Department employees are RSWs.

4. The monitoring systems

4.1 Overview

Director responsible to ensure child receives appropriate care

The *Child, Youth and Family Enhancement Act* gives specific duties and powers to the Minister and the Director. When a child is in need, the Director is responsible to ensure that the child receives appropriate care. As explained in 3.5, the Director delegates certain duties and powers to caseworkers in Authorities and Agencies but ultimately remain responsible to protect the child and to pursue the child's best interests.

Minister must set standards and monitor compliance

The Minister is responsible to set standards for child and family services and monitor Authorities' and Agencies' compliance. The Department develops standards to guide the professional judgements of caseworkers. The Department defines standards as "the measurable definition of the minimum acceptable level of required performance".

Need monitoring systems to ensure children receive appropriate care

In providing this care, the Minister, the Director, Authorities and Agencies should act as good and prudent parents - in accordance with the best practice evidence and consistent with legislation, regulations and standards. Without monitoring systems, there would be no way to ensure that these parties meet their responsibilities—and more importantly, that children are safe and have permanent nurturing relationships.

4.2 Standards and legislation

Child intervention is a highly regulated environment

Child intervention services are provided in a highly regulated environment. There are sixteen standards that form the core of Department and Authority compliance processes, and these standards mostly relate to the safety of the child. Following is an overview of the standards:

Standards relate primarily to child safety

Table 5—Child intervention standards

1. Requirements for intake—extent of information gathered and timelines to complete.
2. Timelines for investigation—immediate if safety threatened, otherwise within 6 days.
3. Requirements for investigation—guidelines on how to conduct an investigation.
4. Basic needs—medical and dental care to be provided.
5. Youth transition planning—planning to foster independence.
6. Suicidal child—ensuring safety and creating a plan for continued care.
7. Behaviour Management and Guidance—promoting self-esteem.
8. Aboriginal children—preservation of cultural identity.
9. Aboriginal services—services from Aboriginal service providers whenever possible.
10. Pertinent Information to Caregiver—caregivers will receive information required.
11. Kinship care—criteria will be met, such as criminal check and environment check.
12. Placement of Children—foster, adoptive or guardianship homes must be approved.
13. Foster Parents—must be trained.
14. Death of Child, Notification—timelines to submit forms in event of a child's death.
15. Electronic Information System—complete information to be in computer system.
16. Administrative Review and Appeal—process if somebody disagrees with a decision.

As well, there are legislative and regulatory requirements that drive casework practice, such as considering the importance of a stable, permanent and nurturing relationship[17] and also by competent casework practice, such as adequate face-to-face time between caseworkers and their clients.

4.3 Monitoring

4.3.1 Caseworkers and supervisors

Caseworkers need to meet standards for care

Caseworkers are responsible to ensure that child intervention services comply with legislation, regulations and standards. They assess children's needs, complete case planning, provide services, ensure safety, and promote physical and emotional well-being. Casework supervisors oversee caseworkers and review critical decisions. Caseworkers and their supervisors may or may not be Registered Social Workers (RSWs) with the Alberta College of Social Workers. RSWs must complete mandatory annual professional development, are required to adhere to College professional requirements (See 3.13.4). All caseworkers must also comply with the Government of Alberta Code of Conduct and Ethics

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[17] Section 2(b) *Child, Youth and Family Enhancement Act*

4.3.2 Quality assurance file monitoring

Department and Authorities each review case-files for compliance with standards

Each quarter, the Department assigns a statistically random sample of case-files to Authorities for review. The Authorities review these chosen files for compliance to standards, using checklists developed by the Department. The Department performs a quality control review of 25% of the case-files reviewed by the Authority, and then reviews a further statistically random sample of case-files using the same checklist. The results of these processes are entered into a monitoring database. All monitoring staff of Authorities and the Department have access to the database and the monitoring results. Results are regularly reported to Authorities, Agencies, the Department and the Minister.

The Department's monitoring group provides a detailed instruction manual to Authorities' staff on the requirements of legislation, regulations and standards, the use of checklists and the monitoring database. Authorities' staff also contact the Department for ongoing information and support.

4.3.3 Special case reviews

Investigate serious injury or death to prevent similar circumstances

The Ministry conducts special case reviews when a child is seriously injured or dies while in the Director's care. The objective is to prevent similar occurrences or deaths, to enhance service delivery, and to support the Minister's accountability. Special case reviews report on potential deficiencies or systemic problems and identify good practices.

4.3.4 Authorities—facility licensing systems

Caregivers must be licensed

The *Residential Facilities Licensing Regulation* requires all residential facilities that provide residential care to a child in care to be licensed. Residential facilities include foster homes, group homes and secure services facilities, but not facilities that primarily provide medical care or educational services. Licensing officers assess whether residential facilities meet requirements that the Regulation prescribes.

4.3.5 Authorities—service provider contract systems

Ministry requires residential facilities to contract with an Authority

The Ministry further requires by policy that service providers who operate residential facilities have a contract with an Authority. Authorities also contract with foster home agencies to provide services to foster families. Contract managers ensure the terms of conditions are appropriate to, and delivered by, the service provider.

4.3.6 Authorities—accreditation of service providers

Ministry requires accreditation

The Ministry further requires that all contracted service providers be accredited by a recognized accrediting body. Group homes and all residential care facilities including secure services, supported independent living, foster care and family and community-based services (in-home family support, intensive family preservation and youth workers) require accreditation.

4.3.7 Reviews by Social Care Facilities Review Committee

Review Committee evaluates services

The Review Committee helps the Minister of Children's Services evaluate the services provided in provincially funded social care facilities and women's shelters. See 3. 9.

4.3.8 Appeals to the Child and Youth Advocate

Advocate reports to the Minister on services under the Act

The Advocate provides advocacy services for children and youth receiving services under the Child, Youth and Family Enhancement Act and as such is a part of the monitoring system. See 3.10.

4.3.9 Administrative reviews and Appeal Panel

Administrative reviews may confirm, vary, or rescind the original decision

People affected by a decision about a child in care may appeal under the *Child, Youth and Family Enhancement Act* if issues cannot be resolved by the caseworker or supervisor. First, the relevant Authority or Agency is asked to conduct an administrative review. The Authority assigns independent senior staff members to review the decision; they issue a written decision to confirm, vary or rescind the original decision under review.

May appeal to Appeal Panel and Court of Queens Bench

People not satisfied with the review decision may appeal it to the Appeal Panel, which can confirm, vary or rescind the decision. People can appeal Panel decisions to the Court of Queen's Bench.

4.3.10 Fatality Review Board

Deaths reviewed by Fatality Review Board

Deaths of individuals that occur under the Director's guardianship or in the Director's custody are reviewed by the Board, which makes recommendations to the Minister of Justice and Attorney General whether or not a public fatality enquiry should be held. The Board is appointed by the Lieutenant Governor in Council and is composed of a lawyer, a physician, and a layperson. The chief medical examiner is also a member of the board, but cannot vote on any matter before it

4.3.11 Investigations by the Alberta Ombudsman

Ombudsman investigates when all other avenues exhausted

The Alberta Ombudsman investigates written complaints from individuals who feel they have been unfairly treated by an administrative decision, act, omission or recommendation of an Alberta government department, board, agency or commission or some professional organizations. However, the Ombudsman does not investigate complaints until all other rights of appeal have been exhausted.

5. Criteria and conclusions

We frame our overall conclusion about the Ministry's systems to deliver child intervention services in terms of three criteria:

- Do adequate systems exist to support the program's goals?
- Are the systems well designed?
- Do the systems operate as intended?

We have concluded that the Department and the Authorities have good systems to deliver child intervention services. Generally, these systems are operating as intended, but some improvements are required in their design. We have made three recommendations to the Department and two recommendations to the Child and Family Services Authorities to improve the design and operation of these systems.

Ministry agreed to criteria at start of audit

To provide a structure at the beginning of our work, we developed and agreed with management on 3 audit criteria. At the end of the audit, we use these same criteria to assess the Ministry's systems to monitor compliance with legislation, regulations and standards. We concluded that the Ministry partly met the 3 criteria.

Table 6—Results in meeting criteria

Criteria	Conclusion			
	Met	Partly met	Not met	Related numbered recommendation
Communicate accountability processes		✓		6.4
Monitor and assess compliance with legislation, regulations and standards.		✓		6.2 6.3 6.5
Act on non-compliance, ensure standards are current, and train staff.		✓		6.1

5.1 Establish and communicate accountability processes

Guidance to caseworkers

We conclude that the criterion is partly met. Policies and standards are documented; manuals exist and are kept up to date so employees have instructions. A new Casework Practice Model is being tested which is designed to bring consistency to practice across Alberta, and support the shifts in casework practice necessary to meet the full intent of the *Child, Youth and Family Enhancement Act*. However, workers told us that these policies and standards are not always easy to follow, and it is not always clear how they should document their work to show compliance with standards. Case-files are organized differently on an individual basis; there are variances on how documents are prepared and filed. See Recommendation 6.4

5.2 Monitor compliance

Accreditation process needs a review.

We conclude that the criterion is partly met. The Department and Authorities have a good system of monitoring case-files for compliance with legislation, regulations and standards. Facilities cannot be licensed unless they are accredited by an independent and approved accrediting body. However, the Ministry needs to conduct a review of current accreditation practices, which allow service providers a choice of four different accrediting agencies - each with different requirements. The Department needs assurance that the differing requirements between accrediting agencies are reasonable and appropriate, given the variety of services by different service providers.

The Department also should improve the effectiveness of its monitoring activities by including risk-based sampling of case-files to ensure that high-risk issues receive the appropriate amount of oversight. Departments and Authorities can improve coordination of information to better respond to issues such as service provider non-compliance or recruitment and retention challenges for workers. Also, caseworkers need to receive clearer input and feedback into monitoring processes conducted by the Department. See Recommendations 6.2, 6.3 and 6.5.

5.3 Act on non-compliance, ensure standards are current and train staff.

Update and enhance standards

We conclude that the criterion is partly met. There are processes to identify and resolve issues of non-compliance with legislation, regulations and standards, and to train staff. However, the Department needs to review current standards and ensure that they are consistent with legislation and organizational goals, and compatible with the new Casework Practice Model. Further, the current standards are input rather than outcome based, which makes it difficult to measure if goals of safe and nurturing environments are being attained. See Recommendation 6.1.

6. Findings and recommendations

6.1 Enhanced child intervention standards

Recommendation No. 6

We recommend that the Department of Children's Services review and update child intervention standards in support of its new Casework Practice Model.

Background

Family enhancement is based on an agreement between parties, not a standard

Upon first contact with a child or family in need, caseworkers conduct a risk assessment resulting in placing the child into one of two streams—family enhancement or protection. The essence of the family enhancement stream is to keep families together and connect them with the required resources to improve their situation. This work can take many forms and is based on a formal, written family enhancement agreement, and a plan developed by the caseworker and family. If the agreement is successfully carried out and issues resolved, more direct ways of dealing with issues, such as court-ordered in-home supervision or removal of the child from the family home are not pursued.

If returning not feasible, placement is made

If it is not feasible for a child to remain with his or her family, permanency becomes the primary goal—the Authority seeks to place the child in a long-term stable home with potential adoption. This involves a legal process focused on the child's guardianship status[18]. If the child is Aboriginal, all efforts are made to keep the child connected with their cultural identity, including consultation with a First Nation.

Foster homes bridge the gap waiting for a permanent home

Between family enhancement and permanency are temporary placements, where children wait in foster care or group homes for the family situation to be resolved. If the family situation is not resolved, a permanent guardianship may be sought. Alternatively and depending on the situation, a child may remain with their own family under a court-sanctioned supervision order, which provides caseworkers with the ability to move quickly should circumstances require.

Care plan is developed

While a child is in care, a plan is developed by his or her caseworker to address their needs. To the degree possible the child is involved in the development of the plan.

Casework practice is different with family enhancement

Casework practice has changed under the *Child, Youth and Family Enhancement Act*. Efforts to keep the family together require caseworkers to plan and work with the family instead of purely focusing on the safety needs of the child. The new Casework Practice Model strengthens early assessment and development of the family enhancement agreement. Caseworkers will typically have a blended workload, with clients from both family enhancement and protection streams.

Casework Practice Model being tested

The new Casework Practice Model is designed to "…provide effective and responsive interventions that can be measured to ensure consistent practice and improved outcomes for children and families."[19] We understand that this new model will provide mechanisms and guidance for all aspects of case management, from a client's initial contact with the Authority or Agency to closure or resolution of matters. The Model is currently being tested by Authorities and development is ongoing.

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[18] A Court would need to be satisfied that survival, security or development of the child cannot adequately be protected if the child remains with or is returned to a guardian other than the director (Section 34 (1) of the *Child, Youth and Family Enhancement Act*

[19] A New Casework Practice Model, Alberta Children's Services, May 10, 2006

Criteria: the standards we used for our audit

The Department and Authorities should have systems to monitor compliance with standards for child intervention services and ensure those standards are current.

Our audit findings

Standards should encompass outcomes

Child intervention standards are in place and the monitoring process demonstrates an ongoing focus on maintaining and improving compliance. However, the standards are based primarily on safety, with limited consideration of outcomes such as child well-being and permanency. The Department has established a process for annual review and revision of standards but there have been no recent changes to include minimum requirements for the family enhancement stream or outcomes. Standards need to be updated to be consistent with legislation and organizational goals, and compatible with the new Casework Practice Model.

Outcomes not measured

Legislation, regulations and standards are fundamental tools for communicating Department priorities and ensuring that in a changing environment, core casework practice is supported. For example, considering the importance of a stable, permanent and nurturing relationship in decisions about a child is a legislative requirement.[20] However, there is no means to consider whether those decisions result in improved well-being for the child. Also, regular face-to-face contact between a caseworker and child is a critical priority for competent casework practice. The frequency of face-to-face contact depends on case-by-case professional judgement. Although the Department measures the frequency of face-to-face contact, by doing so they are measuring one way of assessing outcomes such as well-being, but not the outcomes themselves.

No standards specific to family enhancement

In cases where the child remains in the care of the parents, the Director may enter into a family enhancement agreement under the *Child Youth and Family Enhancement Act*. This is a formal, written agreement between the Authority and the family developed by the caseworker and the family, followed by the development of a plan. Services are provided to the family in the context of the family enhancement agreement and the plan. However, there are no specific standards for developing or monitoring these agreements, or for the services that may be provided within the agreement. Further, Departmental monitoring processes do not assess family enhancement agreements or the consequences of non-compliance with these agreements, although strict non-compliance with agreements may not result in consequences if the process was nevertheless successful.

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[20] See Section 2(b) of the *Child, Youth and Family Enhancement Act*

Department needs to consider resources when implementing changes

As child intervention standards are reviewed and updated, the Department needs to consider how human resources, caseloads and IT resources may be allocated to ensure there is enough capacity to implement the changes.

Implications and risks if recommendation not implemented

Without standards that are consistent with legislation and organizational goals, and the organizational capacity to implement required changes, the Department faces challenges in consistently achieving the intended outcomes for child intervention services.

6.2 Accreditation systems for service providers

Recommendation No. 7

We recommend that the Department of Children's Services evaluate the cost-effectiveness of accreditation systems and the assurance they provide.

Background

Four different accrediting bodies for service providers

In addition to the licensing requirements set out in the *Residential Facilities Licensing Regulation*, the Ministry also requires, through contracts, that contracted service providers be accredited with one of four accrediting bodies. The selection of an accrediting body is left to the discretion of the service provider. Following are the four approved accrediting bodies:

- Canadian Accreditation Council on Human Services
- Commission on Accreditation of Rehabilitation Facilities
- Canadian Council on Health Services Accreditation
- Council on Accreditation of Services for Children and Families Inc.

Criteria: the standards we used for our audit

The Department and Authorities should have systems to monitor compliance with standards for child intervention services.

Our audit findings

Accreditation is one part of the overall system to ensure compliance

To ensure that children in care are provided safe environments, the Department requires that service providers' facilities be accredited. Accreditation is one part of the Department's system to ensure compliance with standards, legislation and policies. Accreditation provides a level of assurance that service providers are complying with the accrediting bodies' requirements.

Variances exist in recognized accreditation bodies' requirements

Currently there is a risk that a service provider may choose to be accredited by a body that may not be appropriate for the services provided. This risk exists because requirements vary, as do the programs offered by service providers. For instance, not all accrediting bodies have standards on suicide intervention or behavioural management techniques. The Department identified the inconsistencies when it approved the accrediting bodies in 2004 and indicated that "Both on a provincial and Authority level, contract managers will need to be aware of the different certification processes, approaches, standards and policies.

Where there are gaps, contract managers would be responsible for ensuring accountability."

No policies or guidance to Authorities on variances or gaps in accreditation standards

The Department has not developed policies or guidance for Authority contract managers on the different accreditation processes, approaches, standards and policies. The Department also has not provided guidance on standards and accountability mechanisms to be incorporated in contracts to compensate for any gaps or variances. The contracts we reviewed did not incorporate any additional requirements to compensate for any gaps in accreditation requirements, to ensure consistent quality of services to children across Alberta.

Authorities need agencies' consent to identify issues found during accreditation processes

In its analysis of the accrediting bodies, the Department stated "From a quality assurance perspective, we may not become aware of the issues until the situation becomes more serious." The Department does not have agreements with accrediting bodies, nor do Authority agreements with service providers give the Department or Authorities access to the results or concerns from the accrediting bodies around the quality of care of children. The Department or Authority can obtain this information only if the contracted service provider consents to its release.

No process to ensure accrediting body requirements are current

The Department does not have a formal process to ensure that the accreditation bodies' standards are in line with the Act or regulations, or remain current and relevant if the Department changes programs or services.

Implications and risks if recommendation not implemented

The Department and Authorities may be placing undue reliance on the value the accreditation process provides in assuring that facilities comply with legislation, regulations and standards.

6.3 Department compliance monitoring processes

Recommendation No. 8

We recommend that the Department of Children's Services improve compliance monitoring processes by:

- **incorporating risk-based testing in case-file reviews.**
- **providing feedback to caseworkers on monitoring results of case-file reviews.**
- **obtaining and analyzing information on Authorities' monitoring of service providers.**

Background

Currently the Departmental case file review process follows these steps:

Department and Authorities review files for compliance

1. The Department selects case files in a statistically random method and assigns the Authority these files to review. The number of files varies according to the size of the Authority.

2. Authority staff review the assigned case files and enter compliance (to standards data) into the Monitoring Database. Checklists developed by the Department are used on all files to ensure consistency.
3. Department staff re-review 25% of the case files reviewed by the Authority staff. Department staff use the same checklists used by Authority staff.
4. Department staff then review a further sample of case files not reviewed by the Authority, using these same checklists.

Some larger Authorities have dedicated staff to monitor compliance with standards. Other Authorities use a peer review process with supervisors and managers reviewing files.

We used a risk based selection method to review files.

We selected approximately 150 case-files across Authorities to test for compliance with standards. We selected case files with a higher than average number of activities.[21] For example when we selected files for youth in care who were under 16 years old, if one child had 3 activities on their file over two years and another had 15 activities on their file, we chose the child with the greater number of activities. In this manner, we examined more complex files where we assessed there may have been a greater risk of non-compliance.

Compliance rates measure whether the case-file includes documented information

Compliance rates report the existence of documentation on a case-file relative to a particular standard, not necessarily whether the standard itself was met. Failure to complete a specific required task, a missing document or deferral by a caseworker to complete paperwork for some reason could all result in a non-compliant result. Accordingly, compliance results should be interpreted carefully.

Criteria: the standards we used for our audit

The Department and Authorities should have systems to monitor compliance with standards for child intervention services.

Our audit findings

Existing monitoring practices are adequate and compliance rates are reasonable

We are satisfied with the design and effectiveness of the existing monitoring practices—file selection and auditing practices are adequate. The Department monitors results from 45 separate compliance tests completed relative to the 16 child intervention standards in Table 5. The compliance rates we found in our samples are consistent with those reported by Department processes and reasonable.

Department reported compliance rates are consistent with our findings and reasonable

There is some variance in the compliance rates and we found that variance to be reasonable in light of our other audit enquiries. Compliance rates for standards that may have significant impact on the safety of the child (such as training for foster parents or placement in only approved homes) are high, whereas standards that are more administrative in nature (such as the submission of forms to the Department) had lower compliance rates. This is consistent with information received from caseworkers that incomplete paperwork was often due to administrative burden and prioritization of client work over paperwork. In any event, we found no compliance rates that caused us to consider any further action.

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[21] An activity is an entry in the Department's database that something has been done for a child, such as a placement or a screening.

Department duplicates Authority monitoring work

The Department duplicates efforts already carried out by the Authorities monitoring compliance with standards. Department staff re-audit work done by Authority staff, and then continue with the same methodology to audit more case-files. It is appropriate for the Department to do some testing to ensure Authority monitoring processes are reasonable. However, the Department needs to consider relying on the work done by the Authorities in order to re-allocate resources to potentially high-risk issues.

No specific selection of high risk issues and no outcome based examination

We found no evidence of specifically selecting case-files based on risk. Case-files for children with complex, high risk issues such as Fetal Alcohol Spectrum Disorder or repeated involvement with the legal system could be examined for outcomes, trends and indicators of best practice. This would involve creating outcome based criteria examining things such as social development, school achievement and other measures of well-being and development.

Feedback from caseworkers is important

Compliance monitoring serves two purposes to caseworkers and management—to provide management with information necessary to make strategic decisions, and to identify good practices and ways to improve services. To be useful, this information must be complete, accurate and relevant. The detail and type of feedback provided to and received from caseworkers from the compliance monitoring process varies throughout the province. We were consistently told during our interviews and conversations with caseworkers at Authorities and Agencies that they had a limited opportunity to demonstrate or explain any areas of non-compliance to standards found by Departmental and Authority reviewers in their case-files. In our survey we asked "Considering the feedback you receive from the monitoring process, how beneficial is it to your clients?" Following are the responses:

Staff and CEOs vary on the value of monitoring feedback

Table 8—Value of monitoring feedback to clients

Response	Staff 608 Responses	CEO 9 Responses	Total 617 Responses
Very beneficial to clients	16%	67%	17%
Somewhat beneficial to clients	45%	22%	44%
Not very beneficial to clients	30%	n/a	29%
Don't Know/Can't Say	10%	11%	10%
Totals	**100%**	**100%**	**100%**

More consistency across Authorities will benefit all parties

A more structured and consistent feedback process between caseworkers, Authority reviewers and Departmental reviewers will achieve two things. First, caseworkers will have an opportunity to verify the information revealed by the review and gain an understanding of what the reviewers saw in their files – which may very well lead to higher compliance rates. Second, the Department and Authorities will gain important and timely front line knowledge about best practice and trends related to caring for clients, which may assist in strategic and policy initiatives.

Department does not receive consistent information on service providers

Contract management, licensing and monitoring of contracted service provider's facilities is the responsibility of the Authorities. We found that the Department does not receive consistent information on these contracting, monitoring and licensing activities. With full and consistent information on, for instance, service providers operating facilities in more than one Authority area, the Department could coordinate monitoring or contract enforcement activities to ensure compliance. As well, the Department could facilitate the sharing of information to ensure the best available resources are efficiently and consistently provided to clients across all Authority areas.

Implications and risks if recommendation not implemented

Without risk-based sampling for monitoring case-files, high risk issues may not receive an appropriate amount of oversight. Gaps in communication between the monitoring staff and caseworkers on monitoring may contribute to low compliance rates. Without a means to monitor, trend and analyze compliance results for contracted service providers, the Department may not be able to ensure that services provided to clients are consistent and appropriate across Authorities.

6.4 Authorities' compliance monitoring processes

Recommendation

We recommend that the Child and Family Services Authorities improve compliance monitoring processes by providing caseworkers with:

- **training on file preparation and maintenance.**
- **feedback from the monitoring results of case-file reviews.**

Background

Casework practice must be documented accurately

Complete and accurate case-file documentation is not optional. In a practice based on relationships, taking the time and effort to document those relationships can seem irrelevant in comparison to directly helping a child in need. However, casework practice must be documented to:

- provide continuity of care, should the responsibility for a case-file change for some reason from one caseworker to another
- ensure communication of critical information if a child moves from one facility or caregiver to another.
- support legal processes if required.
- provide historical context to families with multi-generational issues.

Department and Authorities use the same processes to monitor compliance

Authority monitoring of case-files has already been described (See 4.3)—peer or supervisor review are completed of caseworkers' files and reports are generated on the success of attaining compliance targets. Checklists are common between the Department and Authority for completing these compliance checks.

Criteria: the standards we used for our audit

The Department and Authorities should have systems to monitor compliance with standards for child intervention services.

Our audit findings

Policies and standards about documentation not clear

We found caseworkers to be diligent about describing events on case-files. Caseworkers use contact notes to record the activities on a case. However, caseworkers told us that policies and standards about how files should be documented are not always easy to follow, and it is not always clear how they should document their work to show compliance with standards.

Case-files reflect caseworkers' styles and may be several volumes long

Case-files are organized on an individual basis; there are variances on how documents are prepared and filed that reflect the organizational style of the person preparing the file. Case-files can consist of several volumes. Therefore, monitoring staff can experience challenges locating and assessing information for compliance due to the variety in case-file preparation.

Casework Practice Model should streamline documentation

We understand that one expectation of the new Casework Practice Model is to streamline documentation and remove redundancy. We have not audited the new model but acknowledge that goal to be appropriate. Caseworkers and their supervisors consistently told us that administrative burden affected their ability to provide client services – they felt overburdened by paper. Authorities should work in conjunction with the Department to satisfy competing operational and administrative requirements. Training caseworkers on the new model the Department should ensure contact notes and case files are written and organized consistently so caseworkers can efficiently demonstrate the work they have done in a way easily recognized by the reviewer.

Caseworker feedback has many potential benefits

Our interviews and survey indicate that there can be improvement in communicating monitoring results of case-file reviews to caseworkers. By allowing workers to address issues that may be interpreted as non-compliant, both the reviewer and the caseworker will gain a better understanding of how the file and the related casework are structured. It's also important that the caseworker and their supervisor understand what is truly non-compliant so that a strategy can be developed to correct that issue. Through dialogue the reviewer will learn more about cases than simply what is on the review checklist and over time recognize and report best practice or trends across the Authority.

Implications and risks if recommendation not implemented

With an efficient and consistent method of recording information on case-files that includes feedback to and from caseworkers, resources can be better allocated to the delivery of services to children and families in need.

6.5 Authorities' monitoring of service providers

Recommendation

We recommend that the Child and Family Services Authorities improve the evaluation of service providers by coordinating monitoring activities and sharing the results with the Department.

Background

Information in different places needs to be accessible to all

Currently contract management, licensing and monitoring of contracted service provider's facilities is the responsibility of the Authorities. Caseworkers, licensing officers, contracting officers and accreditation specialists each play a role in monitoring service providers' compliance. Authorities typically maintain separate contract and license files for each facility. Caseworkers also maintain separate files for each child in addition to files that contracted service providers maintain for each child and caseworkers may perform duties in more than one Authority.

Criteria: the standards we used for our audit

The Department and Authorities should have systems to monitor compliance with standards for child intervention services.

Our audit findings

Difficult to coordinate all roles without good communication

Coordination of the various Authority roles is problematic in large Authorities where different people with potentially different skill sets and experience fill each role. This decentralized storing of information increases the risk of communication gaps. We did not see a coordinated and comprehensive system that would allow all parties access to timely information that may be pertinent to their duties or responsibilities. This has the potential to affect daily decisions on critical issues, as well as annual evaluations of service providers. However, we understand that new technology is being developed in conjunction with the Casework Practice Model that may address this issue.

Inconsistent information to Department

We found that Authorities do not provide consistent information to the Department on contracting, monitoring and licensing issues. With full and consistent information on service provider performance, the Department could coordinate cross-jurisdictional issues such as service provider non-compliance, or challenges in recruiting and retaining staff. As well, the Department could facilitate the sharing of information to ensure the best available resources are efficiently and consistently provided to clients across all Authority areas.

Implications and risks if recommendation not implemented

Without an effective and timely means to share vital information between the various Authority roles - as well as between the Authorities and the Department—communication gaps may result in non-compliance issues remaining undetected. As a result, inefficiencies may develop, and the root causes of issues may not be fully understood.

Energy's royalty review systems

1. Summary

Albertans own the resource; royalty regimes should maximize the province's share

Albertans own a world-scale hydrocarbon resource. It is critical to understand that the Department of Energy charges royalties and collects bonuses through Alberta's right of ownership. The primary goal of a royalty regime is to secure the highest price for the resource owners over the long term while allowing a fair share to industry. That's the basic equation. If the government share is too high, industry will invest elsewhere. If the government share is too low, Albertans will sell their resources short.

The Minister of Energy is responsible for royalty regimes

The Minister of Energy is legislatively responsible for designing, operating, monitoring, and adjusting royalty regimes. While the Minister takes advice from a variety of stakeholders and needs authorization to make regime changes[1], he has final responsibility for the stewardship of Alberta's oil, gas, and oil sands resources. The Department of Energy supports him by analyzing royalty issues and regimes and implementing royalty policy.

The Department of Energy has done some good work

The Department of Energy reviews the province's royalty regimes to ensure they continue to maximize government share while allowing a fair share to industry. The oil and gas industry is dynamic. Changes in products, prices, costs, or industry activities mean that the royalty regime that fit yesterday's circumstances may not fit today's. Since at least the year 2000, the Department identified significant changes in Alberta's oil and gas industry and analyzed their impact on the province's royalty regimes. In general, Departmental staff have produced quality analysis. During this period, the Department has adjusted aspects of its royalty regimes. For example, it adjusted or eliminated sub-programs such as the Alberta Royalty Tax Credit and the Deep Gas Royalty Holiday Program.

The Department has calculated that Alberta's share is too low

However, the Department has identified critical issues that have not yet been addressed publicly. These issues largely relate to the rise of oil and gas prices outside the range anticipated by Alberta's royalty regimes. Beginning at least three years ago, the Department demonstrated that Alberta's share had fallen below its target range. The Department estimates that it could collect an additional $1 billion or more per year without stifling industry profitability. However, neither this information nor the reasons why changes have not taken place have been made public.

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[1] The legislature votes on changes to legislation; the Lieutenant Governor in Council makes changes to Energy regulations.

Why have changes not been made?

Readers will ask, "Why have these issues not been addressed?" That question must be directed to those responsible for the royalty regimes. As we pointed out, the Minister of Energy has final responsibility and is accountable for these decisions. In deciding if and when to adjust royalty rates, the Minister is entitled to seek advice from sources other than the Department on issues such as development of further downstream value-added processing in the oil and gas industry in the province. Our audit mandate does not extend to auditing or judging policy decisions such as changes to the royalty regime. However, we do report on systems where sound analysis of Albertans' most valuable physical asset does not appear to have led to timely action.

Five recommendations

In our report we make five recommendations to strengthen the Department's royalty review systems and enhance accountability for the resource's stewardship. The following paragraphs summarize our recommendations.

Objectives and targets should be clarified and publicized

The Department should clarify and publicize its objectives and targets for the province's royalty regimes. The current objective to "optimize Albertans' resource revenue share" is vague and does not drive the Department's royalty review processes. As well, the Department should describe its detailed targets more precisely and state them consistently. Clarity and consistency in the objectives and targets for the royalty regimes would strengthen the Department's systems, from development of policy options through royalty review.

Planning, coverage, and reporting of technical review work can improve

The Department should improve the planning, coverage, and reporting of its technical review work. Technical review is a significant project that requires sound planning to achieve acceptable results. While staff have completed a significant body of technical review work, they should expand their coverage of topics and issues. More analysis will provide a clearer view of the performance of the existing royalty regimes. The Department's presentations can be complicated, long, and vague about conclusions and options. More focused reporting will clarify the issues and their implications.

Performance measures should improve

The Department should improve the annual performance measures related to the effectiveness of its royalty regimes. The Department's executive and staff have stated the current "sharing the profits" measure should be improved. In fact, for several years the measure portrayed satisfactory performance by the royalty regimes while detailed analysis in the Department indicated otherwise.

The Department should periodically report royalty regime information

The Department should periodically report in greater detail on the status of the province's royalty regimes. Owners, MLAs, and other stakeholders have no other practical source for information about the effectiveness of Alberta's royalty regimes. With better information, Albertans can ask better questions about the management of their resource. Periodic reporting also gives the Department and Minister of Energy an opportunity to demonstrate accountability for their stewardship of this key resource.

Controls over processes should improve

The Department should improve controls for its monitoring and technical review processes. Our audit showed that the system now relies heavily on the skill and dedication of individual employees. If key employees make an error or leave their jobs, the Department does not have sufficient controls to mitigate the related risks. The Department should introduce controls such as documenting complex processes, reviewing and signing off key outputs, and referencing final results to source documents.

Our audit objective and general conclusion

Our audit objective was to assess whether the Department of Energy's royalty review systems are adequate. We assess adequacy in terms of three general criteria outlined in section 19 of the *Auditor General Act*: Do the necessary systems exist? Are the systems well designed? Do they operate as they should? Our conclusion is that systems exist but should be better designed and should have stronger operational controls.

The scope of our audit

We examined the Department of Energy's royalty review processes from the year 2000 through May 2007. We focused on the oil, natural gas, and oil sands commodity groups. We did not audit the public royalty review panel[2] whose report is due in September 2007.

The organization of our report

Our report begins with details about the scope of our audit. Second, we define the concepts and terms that we use throughout this report. Third, we describe what royalty review entails and how the Department of Energy fulfills its royalty review responsibilities. We detail the Department's organization, systems, and processes so readers will have a context for the remainder of our report. Next, we describe the general and audit-specific criteria for this engagement. Criteria are the standards against which we judge the Department's performance. In this section we also conclude whether the Department has met each of our criteria. Last, we present our five recommendations for improvement.

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[2] The Minister of Finance struck this independent panel "to conduct a review of Alberta's royalty and tax regime to ensure Albertans are receiving a fair share from energy development through royalties, taxes and fees." Information about the panel can be found at: http://www.albertaroyaltyreview.ca/index.html.

2. Audit objectives and scope

Our audit objective is to assess whether the Department's royalty review systems are adequate. To do so, we determine whether systems exist, are well designed, and operate as they should for the period audited.

We also define royalty review

To achieve our objective, we define "royalty regime", "royalty review", and related terms. We also describe how the Department of Energy performed its royalty review work in recent years. Royalty review is not a common business. Not all jurisdictions have oil and gas assets, nor do all jurisdictions with assets review their regimes continuously. There is no textbook describing royalty review although common practices have evolved. This report summarizes how royalty review works.

Our scope of work takes us as far back as 2000

Our scope takes us back five years and more, from about the year 2000 onward. We examined in detail the systems that the Department of Energy used during our field work period, from December 2006 through May 2007. We also audited in detail select Departmental royalty review activities from previous years, such as the Department's 2004 modeling of the oil sands regime. Our work focused on the conventional oil, natural gas, and oil sands commodities.

Out-of-scope for this audit

In this audit, we did not examine the systems that the Department uses to calculate and collect oil, gas, and oil sands royalty and bonus revenue. In addition, we did not examine whether the Ministry of Energy has adequate controls on the completeness and accuracy of data that form the foundation for royalty calculation. We did not examine the Department's review of other commodities' royalty regimes (e.g. coal, minerals) or of oil and gas rentals and fees.

We did not audit the public royalty review panel

We did not audit the public royalty review panel. The Minister of Finance established this panel to complete an independent review. We did not audit the panel or the Department of Energy's contributions to the panel.

3. Concepts and terminology

Readers need to understand Alberta's royalty regimes for oil, natural gas, and oil sands. We begin by defining various terms.

Bonus and royalty

Bonus amounts are established at auction

Bonus and royalty are the two major elements that the oil and gas industry pays to Alberta as the resource owner. The bonus is an up-front payment related to land tenure. The high bidder at the land auction makes a bonus payment, buys a petroleum and natural gas or oil sands lease or license, and gains the right to "work, win, and recover" the resource under the parcel of land described. Bonuses respond to the expected price, quantity, quality, accessibility, and development costs of the product expected to be recovered.

The Minister of Energy is responsible for royalty regimes

The Minister of Energy is legislatively responsible for designing, operating, monitoring, and adjusting royalty regimes. While the Minister takes advice from a variety of stakeholders and needs authorization to make regime changes[3], he has final responsibility for the stewardship of Alberta's oil, gas, and oil sands resources. The Department of Energy supports him by analyzing royalty issues and regimes and implementing royalty policy.

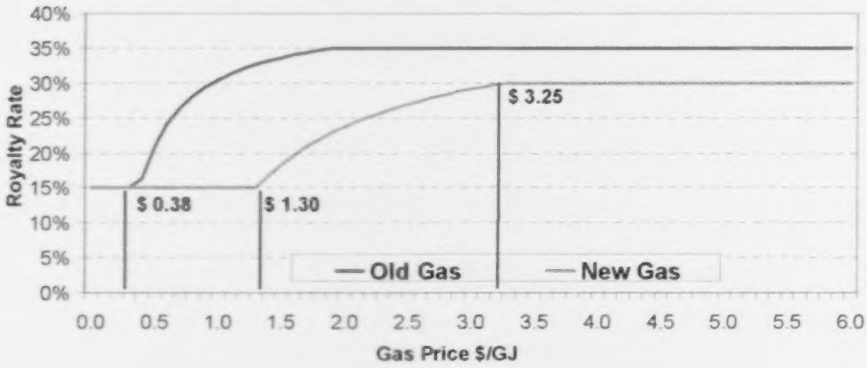
Royalty rates follow a curve based on price

Royalty is based on a combination of production, price, and cost.[4] There are separate formulae for oil, gas, and oil sands. Here we illustrate the royalty curves for natural gas. Note the two vintages, "old" and "new". The rules for royalty vintages are complicated but generally depend on two factors:

- The discovery date of the pool from which the product is drawn, and
- The drilling date.

The curves are similar for conventional oil except there are three vintages: old, new, and third tier.

Natural gas royalty curves (source: Department of Energy)



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[3] The legislature votes on changes to legislation; the Lieutenant Governor in Council makes changes to Energy regulations.

[4] This description simplifies a very complex system. Throughout this report we simplify our descriptions of the Department's systems and processes to avoid overwhelming readers with detail. Further detail on Alberta's royalty regimes can be found in legislation, regulation, and numerous documents on the Department of Energy's website: http://www.energy.gov.ab.ca/default.asp.

Two regime aspects will be important later in this report

We will comment on two aspects of the conventional oil and gas regimes later in this report.

- The royalty rates for a product reach a maximum. The Department refers to the maximum as a royalty cap. Basically, the price of the product dictates the point at which the royalty rate reaches its cap.
- There are different caps for oil and gas depending on the vintage of the product. In general, oil and gas wells drilled before 1974 are subject to royalties with higher caps than wells drilled after 1973.

Royalty regimes

A royalty regime is the combination of government charges

We define a royalty regime as the combination of government-imposed royalties, taxes, bonuses, and other charges that apply to a particular commodity. From the point of view of industry, there is little distinction between royalties, bonuses, taxes, or any other government charge, except that bonus bids are at the discretion of the bidder. They are all expenses to be considered when estimating the profitability of a project. As the royalty programs vary for each commodity, Alberta has a separate regime for each of the major products: oil, natural gas, and oil sands. In a sense, Alberta does not have a single royalty regime, it has a series of royalty regimes.

Principles followed in designing royalty regimes

Alberta's royalty regimes have evolved over time and reflect a view of the nature of the resource, the role of the industry, and the distribution of risk between the two parties. The Department relies on market forces to allocate investment and resources optimally. In designing royalty regimes, governments typically follow principles such as overall government take, industry fair share, international competitiveness, neutrality[5], and avoiding market distortions. Flexibility in the system, so that it automatically adjusts to swings in prices, costs, and other factors, is another concern.

Stability of royalty regimes is important

Both the Department and industry place a high value on royalty regime stability. However, it is important to realize that Alberta's royalty regime has changed frequently in the past 30 years. In recent history, not more than a decade passes without a major adjustment to the regime.

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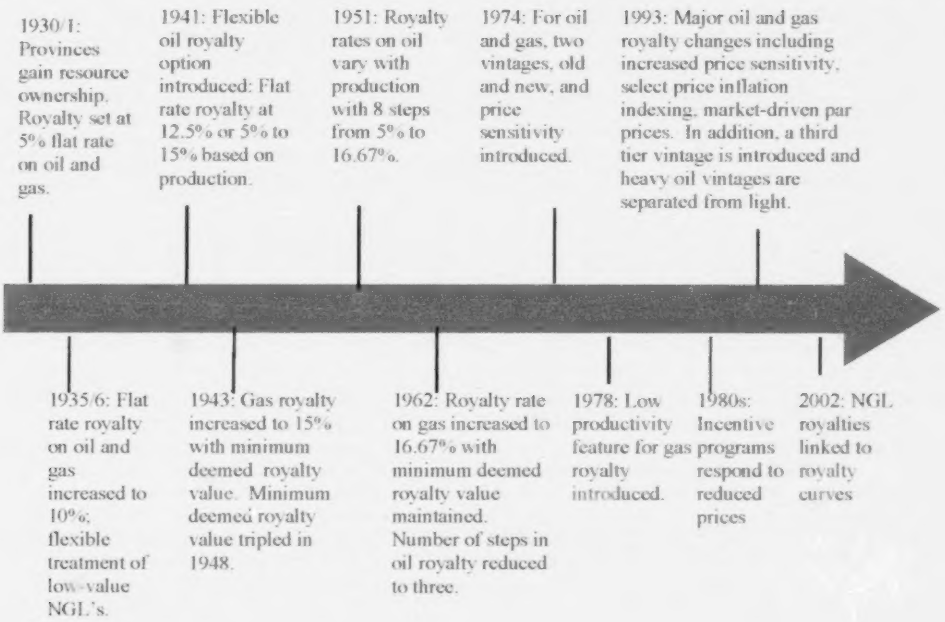
[5] Neutrality means that the royalty regime should not influence industry's decisions about a project. This includes decisions such as the timing, rate of production, technology, and so on for the project. These decisions should be governed by the economics of the project.

Oil and Gas Royalty Regimes: A History of Changes (source: Department of Energy)



1930/1: Provinces gain resource ownership. Royalty set at 5% flat rate on oil and gas.

1935/6: Flat rate royalty on oil and gas increased to 10%; flexible treatment of low-value NGL's.

1941: Flexible oil royalty option introduced: Flat rate royalty at 12.5% or 5% to 15% based on production.

1943: Gas royalty increased to 15% with minimum deemed royalty value. Minimum deemed royalty value tripled in 1948.

1951: Royalty rates on oil vary with production with 8 steps from 5% to 16.67%.

1962: Royalty rate on gas increased to 16.67% with minimum deemed royalty value maintained. Number of steps in oil royalty reduced to three.

1974: For oil and gas, two vintages, old and new, and price sensitivity introduced.

1978: Low productivity feature for gas royalty introduced.

1980s: Incentive programs respond to reduced prices

1993: Major oil and gas royalty changes including increased price sensitivity, select price inflation indexing, market-driven par prices. In addition, a third tier vintage is introduced and heavy oil vintages are separated from light.

2002: NGL royalties linked to royalty curves

In this report, we focus on royalties and bonuses

The Department of Energy designs, operates, and has responsibility for royalties and bonuses. We ignore rentals and fees in our discussion of the Alberta royalty regime because in dollar terms they are too small to affect royalty review. For this audit, we primarily focus on royalty and bonus for the oil, natural gas, and oil sands commodities.

Corporate income taxes are the other major charge

In Alberta, corporate income tax, both federal and provincial, is the most important component of the royalty regime not controlled by the Department of Energy. For this audit, we ensure the Department calculates these taxes correctly when it analyzes the royalty regimes.

There are good descriptions of the technical details of the existing regimes on the Department of Energy website.[6]

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[6] For example, see: http://www.energy.gov.ab.ca/docs/tenure/pdfs/FISREG.pdf for a comparison of the regimes for the Canadian western provinces.

Royalty sub-programs

Sub-programs adjust regimes to address specific issues

In certain situations, the Department may believe its royalty regime does not accommodate particular circumstances or that it needs to intercede for policy purposes. In these cases, the Department may adjust the royalty regime, as it did to encourage deep gas production or horizontal drilling. In this report, we call these "sub-programs"; the Department often calls them "features". According to the Department's website[7]:

Examples of sub-program objectives

> "The current royalty features have 3 main objectives:
> 1. To extend the economic life of mature pools to maximize recovery of oil reserves;
> 2. To promote the development of new and more efficient technologies; and
> 3. To promote the exploration and development of new reserves while providing the province with a fair share of the value of the resource."

These are typical sub-program objectives for adjusting a royalty regime.

Economic rent

Underlying theory or model

Economic rent is a theoretical concept or model that underpins the analysis of royalty regimes. This model provides a vocabulary and framework for analysis of royalty regimes.

Definition and calculation of economic rent

Within this model, economic rent is the income remaining after the investor has recovered all project capital and operating costs, including a competitive return on investment. The Department incorporates the costs for unsuccessful wells in addition to the costs for successful wells in its economic rent models. By considering the full cost to find and recover reserves, the Department provides industry the incentive to continue to develop new projects. Economic rent is calculated using discounted cash flow analysis over the entire life cycle of projects.

Who owns economic rent?

Economic rent belongs to the owner. In practice, owners of the resource allow industry a share of the economic rent. Royalty regime literature suggests that resource owners should take the majority of available economic rent, but leave a minority to industry. The minority share acts as an incentive to industry when there is uncertainty about and therefore risk related to estimated prices and costs; it also promotes cost efficiency in the industry. From industry's point of view, governments collect economic rent from oil and gas companies through corporate tax (both federal and provincial), bonus sales, and royalties.

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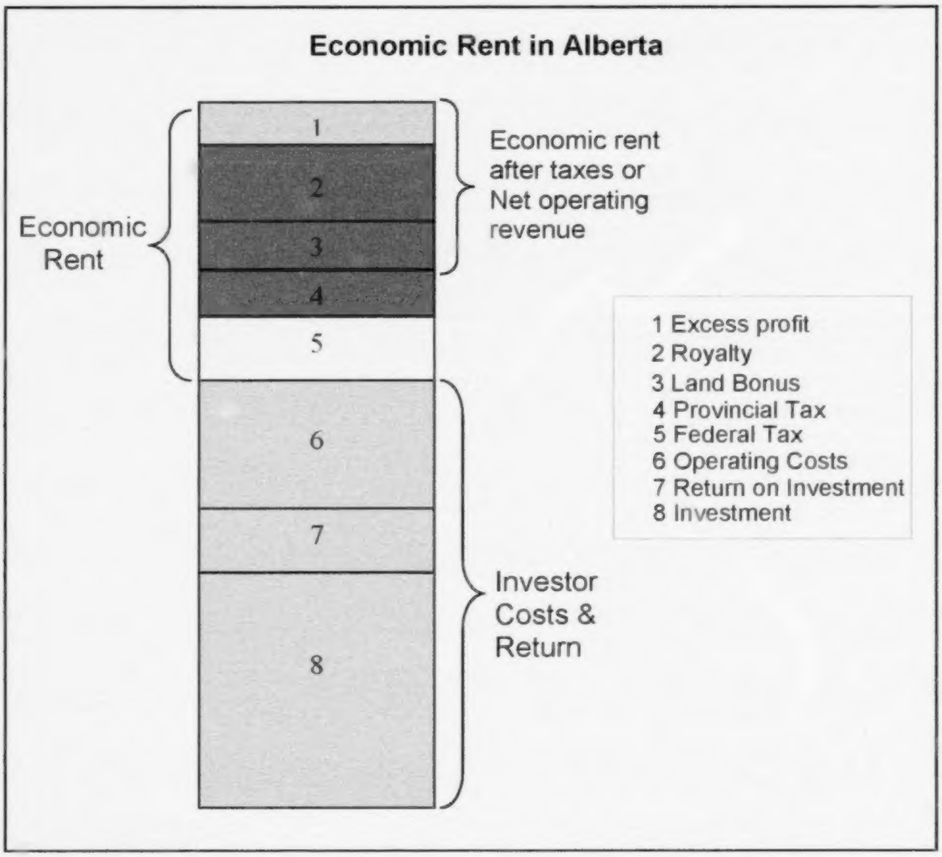
[7] http://www.energy.gov.ab.ca/842.asp


Economic Rent in Alberta
Economic Rent
Economic rent after taxes or Net operating revenue
Investor Costs & Return
1
2
3
4
5
6
7
8
1 Excess profit
2 Royalty
3 Land Bonus
4 Provincial Tax
5 Federal Tax
6 Operating Costs
7 Return on Investment
8 Investment

Regime review begins with establishing available rent

The Department of Energy's view of economic rent begins with its role as resource steward, managing the non-renewable resources on behalf of Albertans. In royalty review, the Department calculates how much economic rent that specific oil, natural gas, and oil sands development opportunities generate. The Department then can calculate how much and how best it could collect that rent while allowing for continuing investment by the oil and gas industry in this province. These calculations are based on the primary production of the resource; further value added is not considered at this stage. Once the basic rent economics have been defined, governments can adjust their royalty regimes to achieve related objectives such as increased upstream activity, increased downstream processing, or increased employment. These types of adjustments reflect a choice made by the government to use the royalty regime rather than another policy delivery tool.

4. Royalty review processes

The oil and gas industry is dynamic and jurisdictions need assurance that their royalty regimes meet their objectives. Where circumstances warrant, jurisdictions will review and as a result perhaps adjust or even redefine their royalty regimes.

"Royalty review" has a variety of meanings

We could not find an authoritative definition of "royalty review". Not surprisingly, the term means different things to different people. Some see royalty review as an analytical process only while others include amending and implementing new legislation and business practices in the term. Some believe that royalty review includes a public consultation phase, others see public consultation as optional.

Common royalty review practices guide our definition

A small number of independent experts, perhaps no more than a dozen individuals and companies, supports royalty review work around the world. Over the years, common objectives and practices for royalty review have evolved. Our audit findings suggest that the following are common royalty review elements. This is our own definition intended to provide structure and consistency to our report.

Five processes in royalty review

We define royalty review as five interrelated processes: continuous monitoring, technical review, policy development, consultation, and amending the royalty regime. These five embrace the broadest definition of royalty review. We include all processes to show the full range of work that needs to be done when a royalty regime gets adjusted. In this section of our report, we describe:

- how the Department of Energy is organized to support royalty review,
- each process in royalty review, and
- how the Department deals with each process.

Organization

The Department of Energy is responsible for royalty review

Within the government of Alberta, the Department of Energy is responsible for monitoring the performance of the existing royalty regime and facilitating necessary adjustments. This is a core business of the Department. Its employees, supplemented by private consultants, perform the royalty review function.

Each business unit reviews its royalty regime

The Department arranges its work by commodity business units: oil, natural gas, and oil sands. Within each business unit, a group[8] performs its royalty review duties. These three groups perform essentially the same processes, using the same or similar tools. Each of these groups contains between four and ten employees who play a role in royalty review over the course of a year. Most of these employees have an economics background. Other units in the Department or consultants provide geological and engineering expertise to these groups, as required. In December 2006, the Department designated overall coordination of the monitoring and technical review aspects to one of the business unit leaders.

Monitoring the oil and gas environment

Jurisdictions monitor: 1) key components of the rent model

Jurisdictions monitor three key aspects of their royalty regimes. The first is monitoring components critical to the jurisdiction's royalty regimes. If these components change, it could signal that the royalty regime needs to be re-examined. Components typically include:

- The status of resource reserves and expected production
- Costs to find and develop the resource
- Price of the resource upon extraction
- Corporate tax regimes
- Market forces that influence prices and costs (e.g. inflation rates, foreign exchange fluctuations, interest rates).

2) other jurisdictions' royalty regimes

The second aspect is monitoring other jurisdictions' royalty regimes. This is analogous to the coffee shop model. The coffee shop's owner will analyze the shop's operations in detail (e.g. cost of beans, cost of cups, leasehold costs, etc.), but before setting prices will want to know what the rival coffee shop across the street is charging. Royalty regimes are similar because industry investment is international and transportable to other jurisdictions[9]. So part of the monitoring process is following what other jurisdictions are doing.

3) the operational success of the regime (success minimizing leakage)

The third aspect considers the operational success of the royalty regime. One concern is whether operations collect the revenues it should. Stated another way, the jurisdiction will want to determine how much leakage occurs in the royalty collection system. This work is not performed by the business unit groups that we listed earlier. Other audits such as our recent volumetrics systems audit deal with this concern.[10]

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[8] For Oil, it is the "Business Development" group; for Natural Gas, it is the "Business Analysis" group within the "Gas Development" area; for Oil Sands, it is the "Strategy, Policy and Evaluation" group.

[9] Subject to other variables that influence the industry, such as political stability, distance to markets, security of supply, etc.

[10] See work on volumetric data in Volume 2, page 64.

(success against regime principles)

Another concern relates to whether the royalty regime actually delivers against the principles that we discussed earlier. Issues such as government take, industry fair share, international competitiveness, neutrality, investment, and inflation need to be monitored. This aspect of the Department's monitoring is covered in this audit.

Monitoring is largely an informal process in each business unit

At the Department of Energy, monitoring contains many informal elements. For example, as the groups are relatively small, it is expected that new information will be shared; the employees with specialized knowledge (say, of pricing) are well known to their colleagues. Information comes from a variety of sources including the Department's geology unit, the Alberta Energy and Utilities Board, the Petroleum Services Alliance of Canada (PSAC), and consultants.

Some monitoring of widely used variables is centralized

Some monitoring activities cover multiple units; for example, bonus sales for petroleum and natural gas leases and licenses relate to both oil and natural gas business unit groups. Similarly, cost analysis for conventional wells looks much the same whether the commodity is gas or oil. So the business units have centralized some monitoring activities.

The units access publications and consultants

The Department reviews industry publications (e.g. semi-annual PSAC reports, Wood MacKenzie publications) and commissions their own reports on selected industry and royalty review topics (e.g. van Meurs, Wood MacKenzie).

Technical review

Monitoring can lead to technical review

When on-going monitoring indicates changes or issues in the oil and gas sector, the Department proceeds to technical review. The purpose is to establish whether the changes or issues are significant enough to threaten the objectives of the royalty regime. Technical review can vary from:

- Studying narrowly defined issues (e.g. applicable to a particular sub-program, geological formation, or developing technology) to
- Undertaking a comprehensive, cross-commodity[11] review of all the royalty regimes in the jurisdiction.

Two activities: economic modeling and inter-jurisdictional comparison

There are two building blocks that underpin the technical review phase: modeling the economics of oil and gas projects and inter-jurisdictional comparison. The Department can use these building blocks to analyze royalty regimes in general or to analyze specific sub-programs, issues, or questions within a regime.

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[11] In this report, cross-commodity means "pertaining to the three major commodities: oil, natural gas, and oil sands".

Economic modeling

The Department uses the same modeling approach as industry

The Department has built the capacity to model the economics for oil and gas opportunities in the province. With these models, the Department can calculate government and industry shares of economic rent. The Department follows the discounted cash flow methodology to model projects. This is the same methodology used by oil and gas companies when they estimate whether a proposed well or project will be profitable. Modeling begins with an assessment of potential production and builds to a calculation of net present value. For industry (broadly speaking), if the net present value for the project is positive, the company proceeds. If the net present value is negative, the company passes on the opportunity.

Major differences are the Department:

1) models "average" wells,

2) uses publicly available data, and

3) focuses on economic rent and government share.

The major differences between the Department and industry in applying discounted cash flow are:

- Industry models a particular well or project whereas the Department models average wells. By "average" we do not mean a specific well thought to be representative of the province. Rather, the Department defines scenarios that cover a range of pool size and well characteristics in each of the PSAC regions[12] of the province. It then models a hypothetical well, group of wells, or project based on the average characteristics for each scenario.
- Industry modeling uses input data containing confidential information such as the company's financial parameters. The Department generally uses input data that is publicly available.
- Industry models the specific well or project to determine profitability and rate of return. The Department models an "average" well to estimate economic rent and especially the government share of economic rent.

Models use the discounted cash flow methodology

Each business unit group runs computer applications to model its royalty regime. The applications vary from group to group but all follow the discounted cash flow methodology. The oil and gas applications look similar because their underlying businesses are similar. The applications cover three types of analysis:

- Base case, where the Department models a base set of assumptions for each scenario;
- Sensitivity, that assesses possible outcomes around the base case assumptions; and
- Risk, that applies probabilities to the base case and sensitivity analyses to generate an expected monetary value for a particular scenario.

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[12] *PSAC (the Petroleum Services Association of Canada) is the national trade association of the Canadian oilfield service, supply, & manufacturing sectors. PSAC has divided Alberta into seven regions. Each region has similar oil and gas geological characteristics.*

Sensitivity and risk analysis consider a range of possible inputs, assign a probability to each input in the range, and calculate a weighted average outcome.[13]

Software used by the Department

The oil and gas business unit groups developed their basic models using a combination of off-the-shelf and in-house-developed applications.

- Industry analysts will be familiar with the units' off-the-shelf software products such as GeoScout, PetroCube, Value Navigator, and PEEP. Oil and gas producers use these computer programs to assess the profitability of oil, gas, and oil sands developments.
- The most sophisticated application developed by the Department on an Excel platform is the EMV (Expected Monetary Value) Calculator. It was originally developed for the gas group in 2004 and now serves the oil business group as well.
- The Department is moving to make its own Access-based TEAM software the standard modeling software for all three groups. TEAM does the economics from a government rather than industry perspective. The Department's corporate IT resources are developing TEAM so it can model a variety of royalty regimes. This would allow TEAM to do inter-jurisdictional comparisons more easily.

The oil sands business unit used its own DCF model; now it uses TEAM

The underlying nature of oil sands business is different from oil and gas. The royalty regime implemented in 1997 is in many respects simpler than the conventional oil and gas regimes. The oil sands business unit did not need off-the-shelf industry software to model the regime. Until 2007, the oil sands unit relied on an in-house Excel application called the Discounted Cash Flow (DCF) model. In late 2006, the Access-based TEAM software replaced the DCF model in oil sands.

Inter-jurisdictional comparison

Consultants, publications, and commissioned reports support comparison

The Department often uses publications (e.g. Wood MacKenzie) and commissioned reports (e.g. van Meurs, Wood MacKenzie) to get a start on inter-jurisdictional comparisons. The Department also relies on consultants to assist with inter-jurisdictional comparisons. These are internationally known experts whose work provides direction for and confirmation of the Department's detailed work.

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[13] We relied on two authoritative sources as criteria to audit the Department's modeling processes:

- *Canadian Oil and Gas Evaluation Handbook*, volumes 1 (June 2002) and 2 (November 2005), available from the Petroleum Society of the Canadian Institute of Mining, Metallurgy, and Petroleum;
- Rose, Peter R., *Risk Analysis and Management of Petroleum Exploration Ventures*, American Association of Petroleum Geologists, Oklahoma, 2001.

The Department also does its own comparisons

The Department takes that direction and builds its own detailed inter-jurisdictional analysis. For example, in the last two years the Department developed TEAM so that it can do its own inter-jurisdictional comparisons between Alberta and ten lower-48 U.S. jurisdictions.

Output of the Department of Energy's technical review

Most reports are PowerPoint presentations

For the most part, the Department uses PowerPoint presentations to report the results of its technical review. The exceptions are:

- the 24 page "Cross-Commodity Royalty Review and Assessment" from December 2004;
- the 19 page "Competitiveness of Alberta" report from May 2005; and
- the 3 page "Executive Committee Decision Request" from October 2005.

All other reporting, and that includes dozens of presentations, was in PowerPoint format. Since the public royalty review panel began, the Department has prepared reports on a variety of topics. Some of these appear on the Department's webpage.

Much of the royalty review work focused on sub-programs

Much of the review work in the last five years focused on existing royalty sub-programs. The Department's technical review led to amendments to three oil sub-programs plus the Deep Gas Royalty Holiday Program and the Alberta Royalty Tax Credit. For example, in 2001 the Department started to review its enhanced oil recovery sub-program. This sub-program eventually was revised and supplemented by the CO_2 royalty credit program introduced in 2003. We have already audited in a separate project how the Department reviewed these sub-programs.[14] As a result, we did not include sub-program reviews in the scope of this audit.

Following is a summary of some of the important reports and presentations from the Department's technical review work, focusing on the conclusions of each review.

In 2000, concerns about rent share at high prices

The oil business unit prepared a series of "Petroleum Royalty Review 2000" presentations for internal Departmental consideration. The presentations, dated September 2000, did not conclude that changes to petroleum royalty rates were necessary but did recommend further investigation of rent share in the high commodity price environment. Starting about 2000, prices began to exceed the royalty caps that we described earlier in this report. Since at least 2004, the province has continuously been in a high price environment.

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[14] See section on sub-programs in Volume 2, page 67.

Royalty caps mean a shrinking government share at high prices

High prices are a critical issue for the conventional oil and gas royalty regimes. Alberta's royalty rates reach their maximum when prices rise to certain levels. Above those royalty caps, royalty rates do not increase and Alberta's share of economic rent declines as prices rise. Royalty regime literature refers to this as a regressive regime, where higher prices mean a decreasing government share. The total dollars collected may (as in Alberta's case) increase, but the province's proportionate share is smaller. Regressive regimes are common around the world.

Work in 2000 followed the same methodology as today (generally)

"Petroleum Royalty Review 2000" followed the discounted cash flow methodology but did not include bonus payments in its analysis. Its oil price forecast reflected the thinking of the day, that $30 / bbl oil (the price at which royalty rates are capped) would not become a permanent feature until about 2012. The review also noted oil royalty rates take too large a share for newly discovered pools in the small to medium size range.

In December 2000, removing the royalty caps was considered

By December 2000, the "Petroleum Royalty Review 2000" presentations concluded that caps on the oil royalty rates should be removed and (subject to further work by the Department) a higher marginal rate should be set for high oil prices.

Royalty review in 2003 repeated the same concerns

High oil prices, higher operating and capital costs, and federal and provincial tax changes prompted the oil business unit to repeat its royalty review in 2003. The resulting presentation titled "Conventional Oil Royalty System 2003 Review" was dated May 2003. The review's concerns were essentially those of the 2000 work except that the 2003 review concluded that removing the caps and implementing a higher marginal rate on the oil royalty rates were not required at that time.

Energy's 2003-04 *Annual Report* says a royalty review was completed

The Ministry of Energy's *2003–2004 Annual Report* (p. 13) says that a royalty review was completed, focusing on the royalty structure and competitiveness. The brief description concludes that Alberta's royalty regimes "successfully encourage continued development while collecting a fair share of resource development profits". While the Department did technical work during that year, no detailed cross-commodity internal report supports this assertion in the *Annual Report*.

From 2004 onward, royalty reviewers say their conclusions have remained constant

The "2004 Royalty Review" was a cross-commodity review that covered the three major resources: oil, natural gas, and oil sands. It was also the first review referred to as a "technical review" by Departmental employees. Employees in the royalty review business unit groups tell us that their conclusions, as laid out in the reports flowing from this review, have not changed substantially since that time. All further reviews repeat the same themes.

December 2004 report concludes on royalty rates at high prices

The "2004 Royalty Review" culminated with the "Cross Commodity Royalty Review and Assessment", a report dated December 20, 2004. The report was discussed with the Minister. It concluded that:

- For gas royalty, consideration should be given to increase marginal royalty rates for high natural gas prices.
- For oil royalty, consideration should be given to increase marginal royalty rates for high oil prices and lower the royalty rate at low oil prices.
- For oil sands royalty, consideration should be given to adjust net royalty rates at high prices, simplify the regime, and expand the royalty collection options.

2005 Royalty Review conclusions:

The "2005 Royalty Review" culminated with "Alberta Royalty Review" presentations dated November 2005. The 2005 work updated and (broadly speaking) repeated the same conclusions as the "2004 Royalty Review". Key documents from this 2005 Departmental review include:

1) increase royalty rates and implement a Sustainability Levy

- An "Executive Committee Decision Request" dated October 4, 2005. In this "Request", the Department described a Sustainability Levy with higher royalty rates, "credits for qualifying strategic value creation investments", as well as the beginning of an initiative to create an "integrated framework" for energy development in Alberta. The "Request" itself indicates that the "minister decided not to go forward". The Minister told us that he felt that the Department had not completed enough work to support this request. In particular, he was concerned that the province's energy strategy had not been developed so how this request fit into the bigger picture was not at that time clear.

2) an estimate of forgone royalties

- "Alberta Royalty Review 2005: Some Additional Questions", (March 2006). This document mentions "an estimate of the absolute minimum that Alberta could increase its share—an estimated \$1-\$2 billion annually at prices above \$5/Mcf". This document was also discussed with the Minister.

3) increase royalty rates, amend sub-programs, and more

The "2005 Royalty Review" was reworked for another "Royalty Review" presentation dated January 5, 2006. The Department's analysis led it to conclude that the government should:

- adjust oil and gas royalty rates at higher prices or introduce new vintages;
- implement the bitumen valuation methodology[15];
- implement changes to the three oil sub-programs;
- terminate the current Deep Gas Royalty Holiday program (DGRHP) and consider a more focused program; and
- eliminate the Alberta Royalty Tax Credit (ARTC).

The conclusions related to the oil sub-programs, DGRHP, and ARTC were implemented. The other conclusions were not actioned.

The Department also gives backgrounders on industry, royalty, and royalty issues

The Department also prepares educational presentations. The Department calls them Royalty 101, 201, and 301; we reference them collectively as Royalty 101. They are in PowerPoint format and familiarize government MLAs with the oil and gas environment including:

- The nature of Alberta's reserves, both conventional oil and gas as well as oil sands;
- Industry background, including technological, economic, and financial aspects of the oil and gas business;
- The existing royalty regimes;
- The methodology to analyze the royalty regimes. Royalty 101 describes how the Department models scenarios, compares between jurisdictions, and consults with industry experts. It also shows the results of this analysis, generally without stating conclusions or recommendations for the royalty regimes.

The Minister himself first presented Royalty 101 to the Standing Policy Committee in August 2006. The wealth of information suggests the need to increase Alberta's share although that conclusion is not explicitly stated.

Developing policy solutions

New policy needs to be carefully considered

For jurisdictions that rely on their oil and gas revenues, policy changes to their royalty regimes need to be carefully considered. Governments must consider the impacts of those changes and the sensitivity of stakeholders (especially industry) to changes in stable royalty regimes. Economic modeling or inter-jurisdictional comparison often yield possible solutions. Independent consultants are often used if the problems are large or complex. Typically, jurisdictions use the economic modeling described in the technical review phase to analyze the impact of suggested solutions.

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[15] For details on the bitumen valuation methodology issue, see page 120.

The Minister is responsible for policy decisions

In Alberta, the Minister of Energy has responsibility for policy decisions about royalty regimes. In making those decisions, the Department prepares detailed analysis for the Minister. However, the Minister receives advice from other sources when making policy decisions. Within government, the Minister may deal informally with other Ministers or MLAs. There is no predetermined program of consultation, advice, or authorization the Minister must follow within government. In many cases, the Minister will discuss policy issues with the Standing Policy Committee (now the Cabinet Policy Committee), cabinet, or other committees. The Minister may also choose to consult with stakeholders outside government.

The Minister has not instructed the Department to develop new policies

Generally, we limit our interest in public policy making to ensuring that the provincial department (in this case, Energy) produces quality work to support the decision maker (the Minister) and that the decision maker actually receives the work. Earlier we outlined the technical review work that has gone to the Minister and others. Following on the cross-commodity technical review work that began in 2003–2004 or earlier, the Minister of the day has not instructed Departmental staff to move to the policy development phase. As a result, we have no policy development work to audit.

Public royalty review panel

By creating the public royalty review panel, the government introduced a mechanism to advance the policy making process. As we mentioned earlier, we did not audit the work of the public royalty review panel in this engagement.

Consultation

Consultation takes different forms in different jurisdictions

Every royalty regime has stakeholders outside government. Changes to royalty regimes are often discussed at least with key stakeholders such as industry. Depending on the jurisdiction and the issues, consultation may consist of little more than informing stakeholders of the policy changes. Consultation may or may not be designed to collect public input or provide the general public with an opportunity to comment on proposed changes. Consultation usually overlaps in time with the previous phases. For example, there may be a round of public consultation in the course of technical review or when developing possible solutions.

No consultation on cross-commodity royalty issues

In Alberta, the Department of Energy routinely communicates with industry and other stakeholders. We reviewed some of the Department's standing committees and working groups. These are not royalty review specific, rather they deal with specific issues or situations. For example, we reviewed preliminary consultation with industry from late 2006 on the bitumen valuation methodology issue. There has been no consultation for cross-commodity royalty review during the timeframe of our audit.

Amending the royalty regime

Different regimes require different types of amendments

Assuming changes are required, the last phase would be to amend the royalty regime by changing legislation, regulation, or agreements. Alberta relies on the private sector to find, develop and produce its oil and gas resources. The province legislates its royalty regimes but also has agreements with corporations to deal with certain oil sands projects. Amending a regime would mean implementing legislation or renegotiating agreements, whichever would be necessary to effect a policy change. Alberta would also need to develop or adjust its systems to operate, monitor, and report a newly amended regime.

As no royalty regime changes have taken place in the last few years[16], we have not audited this phase of royalty review.

Business support

Scope of our work in support areas

Royalty review, like any other departmental business, requires effective support to succeed. Our audit addressed the following support systems:
- Planning, monitoring, reporting (internal and external),
- Human and other resources, and
- Information systems.

The Department plans at three levels of the organization

The Department of Energy prepares three levels of planning. First, the Department contributes to the Ministry *Business Plan*, a three-year plan prepared annually. Second, each business unit within the Department prepares its own annual business plan. Third, individual employees prepare their own annual performance agreement. The Ministry *Business Plan* is a public document and can be found on the Department's website. At all three levels, royalty review is identified as an activity for the year. For instance, "royalty review" has been an ongoing activity in the Ministry *Business Plan* for several years.

The Department has formal and informal monitoring systems

Monitoring within each business unit and especially within each royalty review group is largely informal. One business unit leader has regular bi-weekly meetings to review progress but other unit leaders are less formal. There is a formal element to internal monitoring through the Department's quarterly reporting. As well, each unit makes a presentation that includes comments on royalty review during the Department's planning activities.

Little public reporting of royalty review

Public reporting of the Department's royalty review work is hard to locate. Since summer 2006, the Department has released a few commissioned reports through its website and by tabling documents in the Legislature.

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[16] Except for sub-program changes that are not covered in this audit.

Royalty review staff have an economics background

Many employees involved in royalty review have an energy-economics background and work experience appropriate to their assignments. The Department's Geology Group provides engineering and geological support for the business units. Consultants supplement Departmental resources for inter-jurisdictional comparison and detailed engineering studies.

Many IT controls are centralized in the Department

The Department of Energy, like all Alberta departments, has formal information systems policies and procedures in place. Business unit employees work on protected network drives that are regularly backed up. Many of the software applications used by the units reside on a desktop computer. The work areas are physically secured and input data, parameter files, and output are routinely saved on the central network.

5. Criteria and conclusions

General criteria for concluding

We frame our overall conclusion about the Department of Energy's royalty review systems in terms of three criteria: Do systems exist to support the Department's royalty review objectives? Are the systems well designed? Do the systems operate as they should?

Systems exist

- The Department of Energy has operated monitoring and technical review systems for many years. Those systems exist. We were not able to audit cross-commodity policy development, consultation, and regime amendment during this audit because the Department has not advanced to these phases in its royalty review.

System design can improve

- The royalty review systems that we audited have design flaws. We found that the Department's detailed monitoring and technical work is sound. The Department has improved its monitoring and technical review systems over the years. However, the Department can improve system design by:
- Clearly describing and publicly stating the objectives for its royalty regimes,
- Improving the planning, coverage, and internal reporting of its technical review work,
- Improving its annual performance measurement reporting for its royalty regimes,
- Periodically reporting on the province's royalty regimes, and
- Enhancing controls for its monitoring and technical review work.

The recommendations in section 6 of this report provide details on these issues.

The royalty review systems that we audited operate as designed.

Six audit-specific criteria for this work

To provide a structure for our work, we developed and discussed preliminary audit-specific criteria with the Department's executive. We use criteria as detailed standards against which to assess the Department's royalty review systems. In the course of our audit, we refined the criteria. In the end we have six criteria. We conclude that the Department partially met four criteria and did not meet two others.

Criteria	Conclusion			Related Recommendations
	Met	Partially Met	Not Met	
The Department should have clearly defined objectives for its royalty regimes. The Department should make these objectives clear for external reviewers.		✓		9
The Department should have effective, efficient systems in place to: • monitor developments in the oil and gas environment and • perform its technical review (fair share analysis and competitiveness) to determine whether its royalty regimes continue to meet objectives.		✓		10, 13
Royalty review should examine royalty issues beyond basic technical review (fair share and competitiveness). These issues such as inflation, investment, employment, etc. either impact or are impacted by Alberta's royalty regimes.		✓		10
The royalty review process should resolve important royalty regime issues on a timely basis.			✓	9, 10, 11, 12
The Department should periodically report information from and about its royalty review. This includes publicly reporting information about its analytical work, current issues for the royalty regimes, and the performance of its royalty regimes against program objectives.			✓	11, 12
The Department's administrative systems should support its royalty review work, including adequate: • planning, monitoring, and internal reporting; • human and other physical resources; and • information systems, both automated and manual, that are well designed, reliable, and secure.		✓		10

The Department partially met the following four criteria.

Clear objectives

Objectives and targets should be clarified

The Department reports "optimization" as the high-level objective for its royalty regimes. This objective does not address the primary concern for royalty regimes which is to define and capture as much economic rent as it can for the province. The Department analyzes government take in terms of economic rent. Most Departmental staff will quote a target of 50% to 75% of available economic rent but definitions in the Ministry vary. For the conventional oil and gas regimes this target is broad, inconsistently stated, and interpreted differently by various decision makers. The Department should also clarify its oil sands objectives. These issues are discussed in detail in recommendation 6.1.

Systems for monitoring and technical review

The Department does sound work on monitoring and technical review

Monitoring is informally organized, but the process is well understood by staff and the system is acceptable. The Department has done extensive technical review over the past five years and the quality of work is generally high. Those performing the review have the education, experience, and commitment to do a good job. As well, there is an ongoing initiative to improve the tools used for technical review.

Coverage of technical review can improve

The Department can improve these systems. In recommendation 6.2, we discuss how the Department's technical review can be expanded to provide keener insights into the performance of the royalty regimes. For example, technical review should model a wider range of scenarios and quantify the dollar impact of issues.

Controls could mitigate system's risks

The Department's royalty review systems depend heavily on the individuals who run them. The Department has not implemented sufficient controls to mitigate the risk should key employees leave or make a serious error. We discuss how the Department can improve its controls for royalty review in recommendation 6.5.

Issues beyond basic technical review

Technical review capacity not often used to analyze further issues

In our criteria, we distinguished the basic technical review practices (fair share and competitiveness) from analysis of further issues related to royalty review. By this we mean issues that either impact or are impacted by Alberta's royalty regimes. Since the public royalty review panel began in late 2006, the Department has begun to analyze more of these issues. For example, we reviewed the work started on costs in the oil sands environment. Overall however, the Department has not applied its technical review capacity to issues such as inflation, investment, employment, and so on. We address this issue in recommendation 6.2.

Administrative systems supporting royalty review

The Department can plan better for royalty review

We focused on three administrative areas that support royalty review: planning, monitoring, and internal reporting; human and other resources; and information technology (IT) support. There are established Department-wide systems in place for each of these areas, and those systems are adequate as far as they go.

We have concerns with two administrative areas. First, the Department does not plan adequately for a project as large and important as royalty review. Second, internal reporting of technical review results, by which we mean reports or presentations directed at audiences within the Alberta government, can improve. Recommendation 6.2 deals with these issues.

The Department has not met two criteria.

Resolving issues on a timely basis

Some royalty review work successfully concluded

Over the past five years, the Department has delivered a number of products related to royalty review. For example, the Department has implemented an educational process for MLAs so that the discussions about the complex energy environment can proceed with greater understanding. The Department also analyzed its royalty sub-programs and either amended or eliminated those that no longer met their objectives.

Progress on critical issues is slow

However, progress on many critical issues is slow. The Department's royalty review identified the critical issues years ago and has repeated the same issues year after year. For example, the bitumen valuation issue has been on the oil sands business unit's agenda since 2000 and is still not resolved. The issue of royalty caps has reached a point where there may no longer be a simple solution to the issue.

Recommendations will support timely resolution of issues

Several recommendations will help the Department resolve these critical issues more quickly.

- The Ministry of Energy should describe the objectives and targets for its royalty regimes; see recommendation 6.1.
- By enhancing the planning, coverage, and internal reporting of its technical review, the Department can clarify the expectations and performance of Alberta's royalty regimes for owners, MLAs, and stakeholders; see recommendation 6.2.
- Better performance measures and analysis of performance measure results would likewise emphasize the importance of key issues. See recommendation 6.3.

- Periodic public reporting of information about Alberta's royalty regimes will add impetus to resolving issues. Owners, MLAs, and stakeholders will have better information about the royalty regimes and will ask better questions of the Department and Minister. See recommendation 6.4.

Reporting royalty regime information

Only the Department has the capacity to do technical review

This is especially important. In theory any Albertan with enough time and money could assemble the analysts, buy the tools and data, and evaluate Alberta's royalty regimes using the Department's analytical methods. In reality, only the Department has the capacity to do this work. If the Department does not make analytical information available to the public, Albertans will not understand the issues and their magnitude.

The Department does not make technical review results public

To date, the Department does not publicly report royalty regime analytical information. This does not provide transparency or accountability for the stewardship of Alberta's key resource. Recommendations 6.3 and 6.4 are critical to improving public reporting.

6. Recommendations

6.1 Royalty regime objectives and targets

Recommendation No. 9

We recommend that the Ministry of Energy clearly describe and publicly state the objectives and targets of Alberta's royalty regimes.

Background

Public documents contain general statements about royalty regimes

Ministry of Energy plans and reports contain general statements about royalty regimes and royalty review such as:

- a core business, "securing benefits for Albertans – secure Albertans' share";
- objectives such as "optimize Albertans' resource revenue share" and "maintain the competitiveness of Alberta's energy … resources"; and
- strategies such as "continue to review royalty regimes and recommend changes needed to address changing economic circumstances and opportunities".

Information on the Department's website is also general about objectives. There's detailed information about how the royalty regime is designed and administered.

Criteria: the standards we used for our audit

The Department should have clearly defined objectives for its royalty regimes. The Department should make these objectives clear for external reviewers.

Our audit findings

Optimization and royalty review

"Optimize" is a vague objective for a royalty regime

The Department uses the word "optimize" to describe its royalty regime objective. In the royalty review context, it is difficult to understand what optimization means. The Canadian Oxford Dictionary defines optimizing as "mak[ing] the best or most effective use of an opportunity". So optimization suggests a choice amongst alternative uses for Alberta's resources. That concept can be understood for the resource in general because government may want to trade off some financial benefit to accomplish other goals. The royalty regime might be one tool to effect the trade. But the primary royalty regime question is how large a share of economic rent the province can take while remaining competitive with other jurisdictions. Competitive means offering the same return on investment to industry on similar oil and gas projects. Once that primary question is answered, the government can make informed decisions about trade offs.

Best if decision makers all support the same objective

To support effective and efficient royalty review work, it would be best if decision makers supported the same high-level objective for the royalty regime. Many who perform royalty review in the Department told us their objective is to maximize government take and their work reflects that objective. On the other hand, politicians have expressed the view that as long as resource revenues are high, the province need not capture excess available economic rent. This contradicts the Department's conclusion that "a decision to not capture the full [economic rent] amounts to a decision to sell the province's resources at less than their full value."[17]

"Optimize" does not drive Departmental technical review

In practice, the optimization objective does not drive the technical review processes at the Department. The processes analyze government share and conclude whether Alberta's regimes are competitive. The processes do not analyze alternative uses for Alberta's resources. Some Ministry of Energy *Business Plans* (e.g. 2003-06) reflect the maximization objective for royalty review, but it is not consistently stated over time.

Detailed targets

Economic rent theory drives analysis of royalty regimes

The Department of Energy analyzes economic rent to determine whether royalty regime objectives are met. The theory suggests that governments should capture close to 100% of available economic rent. In practice, jurisdictions usually allow industry a share of economic rent. This compensates industry for taking the majority of financial risk and encourages cost efficiency in their operations. Like most governments, Alberta's regime is regressive. That is to say, the more economic rent available, the lower is

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[17] Alberta Department of Energy, "*Alberta Royalty Review 2005: Some Additional Questions?*", March, 2006.

Alberta's proportional share of that rent.

Taxes form a portion of economic rent

In practice, federal and provincial corporate taxes take a slice of available economic rent. As the Department of Energy does not control the tax burden, one could say that, in modeling economic rent, taxes are similar to operating or capital costs. In essence, the Department collects a portion of available net operating revenue[18].

Target often described in contradictory ways

Departmental documents confound these concepts when talking about targets. The Department's internal documents usually say its royalty regimes should collect between 50% and 75% of available economic rent. But we have also seen documents setting the target in the 50% to 75% range of net operating revenue. We often saw the objective to collect 50% to 75% of economic rent through royalties, plus 25% to 50% through bonuses. If a regime collects 50% or more of economic rent through royalty, 25% or more through bonuses, and includes a tax burden on top of that, it's possible that governments could take more than 100% of economic rent. The Department should be consistent in describing its economic rent targets.

Target range is not specific

In addition, 50% to 75% is a wide range. 50% is usually the target for unattractive circumstances while 75% and above is usually reserved for attractive opportunities. In reality, Alberta's conventional oil and gas regimes aim to collect a share similar to competing jurisdictions. Because Alberta is part of a North American energy network, competitive jurisdictions for conventional oil and gas are found in Western Canada and the lower 48 U.S. states. Through comparison with these jurisdictions, the Department has determined that 66% of net revenues, plus or minus a few percentage points, would be competitive. It needs to state that target clearly.

Politicians can have different views on targets

Again, politicians seem to have different views. We interviewed a former Energy Minister who felt that 50/50 was an appropriate split because of industry's risk burden and the need for a stable royalty regime. This lack of precision and consistency for detailed targets has an impact on the Department's ability to complete acceptable technical review work.

Oil sands objectives and targets

1997 oil sands regime intended to kick start projects

Departmental staff tell us the objective for oil sands was generally the same as for other commodities. The Department aimed to collect 50% to 75% of economic rent over the life of an oil sands project. High up-front costs and low prices in the 1980s and 1990s meant that industry was reluctant to take up oil sands development. OSRR 1997[19] intended to kick-start the oil sands industry in Alberta. This generic oil sands regime reduced the royalty burden in the early years of high-cost development, but the long-term royalty objective remained the same.

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[18] Net operating revenue is defined as economic rent less federal and provincial corporate income taxes.

No detailed target for oil sands regime

The Department's current modeling indicates that OSRR 1997 projects have slipped out of the 50% to 75% range; they're now estimated to collect about 45% over the life of a new project. The Department does not appear to have calculated a more precise target. However, the high capital cost for these projects make them comparable to projects such as off-shore deep-water drilling, not the lower 48 states scenario.

Kick start intentions now met; further objectives not clear

The OSRR 1997 regime was established when oil prices were $20 per barrel; they have been well above that for more than five years. The specific objectives for the kick-start program were achieved years ago. There are reasons to be careful about changing the regime. Preserving Alberta's reputation as a stable regime is important. As well, industry assumes the financial risks for these huge projects so can argue they should reap the windfall reward. Updating and clarifying oil sands royalty regime objectives and targets would support royalty regime design and review.

Publicly reporting objectives and targets

Regime objectives and targets not publicly reported

Historically, the Department has not publicized its objectives and targets for Alberta's royalty regimes. Since the royalty review panel was announced, the Department has put technical papers on their website that describe its royalty objectives. Unfortunately, even that material is vague about targets. For example, one document states that "[fair] share is ultimately determined by what resource owners want". [20] We believe that owners require a more specific definition.

Implications and risks if recommendation not implemented

Unless the Department describes its royalty regime objectives and targets, royalty reviewers will not have a standard against which to analyze the effectiveness of Alberta's royalty regimes. Inconsistent objectives may lead to inconclusive analysis, rework of analysis, and decision paralysis. External stakeholders need this information to understand the purpose and assess the performance of the royalty regimes.

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[19] *Oil Sands Royalty Regulation*, 1997. This is the regulation under the *Mines and Minerals Act* that establishes the generic oil sands royalty regime.

[20] "Royalty Information Briefing #2 – What is Fair Share?" See: http://www.energy.gov.ab.ca/docs/aboutus/pdfs/InfoSeries-Report2-_FairShare.pdf

6.2 Planning, coverage, and internal reporting

Recommendation No. 10

We recommend that the Department of Energy improve the planning, coverage, and internal reporting of its royalty review work.

Background

The Department has performed royalty review for many years

Royalty review was a strategic priority in the Department's *Business Plans* from 2000 through 2004. After that, royalty review was not specifically mentioned as a priority in the plans although it is implied in the Department's core business of "securing benefits for Albertans". The Department of Energy has been busy at monitoring and technical review since at least 2000. Much of the technical review in recent years focused on sub-program analysis. We outlined important outputs in this report, pages 105 through 108.

Criteria: the standards we used for our audit

When signals indicate the need for technical review, the Department should effectively plan, complete, and internally report its work. Our planning criteria follow project management principles and practices that can be found in Project Management Institute and similar authoritative texts. The Department should have effective, efficient systems in place to monitor developments in the oil and gas environment and perform its technical review to determine whether its royalty regimes continue to meet objectives.

Our audit findings

Planning, coverage, and reporting support stewardship role

The Department manages the hydrocarbon resource on behalf of the owners, the people of Alberta. Royalty review plays a significant role in ensuring the Department maintains up-to-date royalty regimes. The Department has done technical review for years and its work is generally high-quality. However, better planning, coverage, and reporting will mean that rework can be reduced, more work can be completed, and the results can be more clearly expressed.

Planning technical review

Planning establishes the parameters for a successful project

As the Department has emphasized, they perform a technical review when signals indicate they should. This means that technical review is a project with a specific purpose. Cross-commodity concerns or single issues can trigger review projects. Planning should establish and authorize the scope, principles, expected deliverables, timelines, and leadership for the project. The purpose of planning is to set the parameters for successful results. Involving the Minister in the planning phase of major review activities helps ensure that final results satisfy his requirements.

In 2000, the Department identified the major issues

As early as 2000 when the price of oil hit $30 per barrel, the Department recognized it needed to perform a cross-commodity technical review. The major issues for the royalty regimes were clear: royalty caps for conventional oil and gas and the kick-start nature of OSRR 1997 in an environment of $20 oil. Internally, the Department used the term "windfall price levels". Cross-commodity technical review has been underway in one form or another since then.

No detailed planning for cross-commodity technical review

Cross-commodity technical review is large enough to warrant detailed project planning. Generally the Department's formal planning for technical review consists of brief statements in the Ministry *Business Plan* and in the individual business units' plans. Employees also list "royalty review" as a responsibility in their performance agreements. From time to time, technical review planning initiatives contained a little more detail. For instance in the early 2000s, business unit plans estimated resource requirements for technical review. We also saw the oil business unit's planning for its portion of cross-commodity review. But overall, we saw no formal, authorized, detailed planning for cross-commodity technical review in the Department.

No detailed planning for single-issue technical review

Single issues need to be resolved as well. The longest-standing example is the non-arm's length bitumen valuation methodology. This issue dates back to at least 2000. It is a transfer pricing issue, where oil sands producers pay royalty based on a non-arm's length price for their produced bitumen. This issue affects royalty calculation, fair share calculations, and revenue forecasting. To give perspective, in 2005 the Department estimated that by 2010 as much as $1 billion per year of royalty revenue could be at risk. Ministry and business unit plans as well as individuals' performance agreements have mentioned bitumen valuation methodology for years but the Department has not undertaken further detailed planning. The issue has not yet been resolved.

Department does not adjust its approach when monitoring suggests a roadblock

The Department monitors progress with a formal internal quarterly reporting system. Royalty review initiatives, both cross-commodity and single issue, routinely appear in these updates. Delivery dates often slip. For example, the "competitiveness assessment with the U.S." is discussed in the second quarter report of 2005–2006; the assessment should be ready in October 2005. That date then slips to March 2006 in the third quarter and becomes "ongoing" in the fourth quarter. The comparison is presented to the Minister in the second quarter of 2006–2007. In another example, the bitumen valuation methodology issue has been reported regularly since 2001–2002. That issue is still not resolved. Where projects do not meet timelines or expectations, planning should adjust to increase the likelihood that work will be successfully completed.

Expanding the coverage of technical review

Technical review supports analysis of regimes' performance

The Department can cover more ground with its technical review. Much of the work now focuses on inter-jurisdictional competitiveness. This is critical work but can be supplemented to give a more balanced view of current issues and the royalty regimes' historical performance.

Results can be quantified by dollar impacts

The results of technical review are rarely expressed in dollar terms. Presentations focus on government share expressed as a percentage, or Alberta's government share percentage vs. another jurisdiction's government share percentage. From time to time the Department has quantified the dollar differences. These estimates tend to be rough estimates, not performed to the same level of detail as the technical review. For example, in 2005 the Department calculated "un-captured economic rent" from natural gas. The calculation only considers annual totals for inputs such as production, average product price, average supply cost, and average tax and royalty rates. The calculation estimates a range of $0.7 to $1.4 billion per year of un-captured rent, but this can only be considered a rough estimate.

Quantification can apply to individual issues as well

Quantification in dollar terms should be applied to individual issues as well as to the regimes in general. We already mentioned the bitumen valuation methodology issue and its maximum dollar impact. Quantifying the impact helps decision makers weigh the importance of the issue. It deserves greater rigour in calculation and greater prominence in reporting by the Department.

Quantifying apparent options supports decision making

While technical review is not the policy development stage, we earlier mentioned the overlap between the phases of royalty review. Often options to address the royalty regime issues are self-evident from performing the technical review. The Department often reports apparent options, but rarely quantifies the impact. To support decision makers, the Department should quantify the impact of apparent options and report the results.

The Department models only go-forward projects

The Department models only go-forward projects (i.e. projects that would begin in the immediate future). This is critical for inter-jurisdictional comparison because those are the circumstances that attract new investment to Alberta. However, to understand the performance of Alberta's royalty regimes, it is also necessary to analyze projects or wells that are already operating, have actual performance results, and will continue to operate into the future. This provides a clearer view of the historical performance of the current regimes against the objectives for those regimes.

Technical review covers only the most recent vintages

For conventional oil and gas, the Department models only the most recent vintage: "third tier" for oil and "new" for gas.[21] However, industry commonly drills new wells that tap into already discovered pools and so qualify for the earlier vintages. We took conventional oil as our sample. The royalty review group assumes that all wells will pay "third tier" royalty, the most recent vintage. It used the period 1998 through 2002 as the basis for modeling production rates, so we examined that period as well. Of the 7,300 oil wells that began producing during that time, 64% pay "new" royalties and only 36% pay "third tier". Modeling the major vintages gives a complete view.

The Department should model cold production of bitumen

Under OSRR 1997, bitumen is defined by its geographic and geological location in the province. In some of those formations, the resource in the ground is essentially heavy oil that is classified as bitumen for the purposes of royalty. Cold production wells use conventional drilling techniques to extract the heavy oil from these formations but are charged royalty based on oil sands regulation. To date the Department has not modeled cold production wells that operate under OSRR 1997. These wells account for about 10% of Alberta's total bitumen production.

Royalty review is not often used to analyze further issues

Issues such as industry-specific investment or inflation are germane to the integrated energy strategy of the province. We believe that the Department should use the analytical tools of its royalty review groups to analyze these issues. As well, the Department internally reports that not collecting a sufficient share of economic rent will negatively influence these issues. In fact, royalty reviewers have done little detailed work to analyze or quantify these issues. One reason for this is that the Department has not been instructed to progress to the policy development stage.

Nine issues sampled during our audit

During our audit, we sampled nine issues that the royalty regimes affect or that have an impact on the royalty regimes. These include issues that economists could analyze such as investment and disincentives to maximize production from existing wells. The royalty review business unit groups had worked on two of the issues in the past, although one issue (bitumen valuation) has not been resolved and the other piece of work yielded no documentation or result that we could review. The royalty review groups have recently started work on four of the issues. This recent work flows from queries of the public royalty review panel. The royalty review groups have not examined three of the nine issues. Other groups or business units at the Department have worked on some of the nine issues but the royalty reviewers have not yet used their technical capacity to examine the impact of the royalty regimes on the issues or the impact of the issues on the royalty regimes.

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[21] This is the Department's practice over the last few years. In the past (e.g. May 2003), other vintages were modeled.

Reporting technical review results within the Alberta government

Internal presentations can be more focused and less complicated

We have seen the PowerPoint presentations that report the Department's technical review results to the Minister, Standing Policy Committee, and others. These presentations often result in information overload due to busy slides, too many of them, with too much information to digest at a sitting. Presentations can be improved by focusing on the purpose and conclusions of the work, simplifying slides, and supplementing the presentations with written reports.

Conclusions can be stated more clearly

The presentations often provide overviews of the energy environment in Alberta, the province's royalty regimes, and the work the Department has done to date on royalty review. While this is essential background, it can detract from the key messages. Some presentations place the key conclusions at the end, contain ambiguous conclusions, or state no conclusions at all. Departmental technical review staff assure us that they have held the view that Alberta has not been collecting its appropriate share since 2000. But as an example, the 2005 Royalty Review presentation has a section called "Conclusions" that provides a mixed message. The section begins, "Alberta's royalty system works well in the price environment for which it was designed: Government captures a fair share; Alberta is competitive Globally". The section goes on to note three primary concerns and two slides later recommends, "Increase conventional oil and gas royalty rates to *restore* [sic] Alberta's 'fair share' at high prices". This does not clearly state the Department's conclusion that in today's circumstances the royalty regimes do not capture an appropriate share.

Presentations are long and all-inclusive

The Department's presentations tend to be long and complex. For example, the presentation given to us at the beginning of our audit contained 57 slides covering everything from historical pool size analysis to theories of economic rent. If the presenter spent only two minutes on each slide (and that would be a very quick review), the presentation would take about two hours. These presentations can be improved by:

- Clarifying the key messages. For example, we discussed clearer conclusions in the previous paragraph.
- Simplifying the slides themselves. Many are complicated graphs or tables with considerable marginal information included.
- Reducing the volume of evidence reproduced in the presentations. For example, the presentation we saw made the point that pool sizes in Alberta are small and therefore costly to produce on a "per unit of production" basis. The presentation used three slides to support that conclusion where one example would suffice.

Reports instead of presentations can provide detail

For audiences that require greater detail, the Department should provide written reports. The Department should consider whether detailed reports can be made available before or after presentations so the audience have reference materials available. Since the public royalty review panel began its work, the Department has begun to make reports available on aspects of the royalty regimes[22]. These contain detailed analysis that could supplement presentations.

December 2004 report is an example of analysis and conclusions well packaged

Clear and complete reporting is essential for decision makers. To support decision makers, the Department should clarify its analysis, conclusions, quantification, and options. The December 2004 report titled "Cross Commodity Royalty Review and Assessment" is a report that achieves those goals. That sort of reporting also supports Departmental accountability for the stewardship of the province's oil and gas resources.

Implications and risks if recommendation not implemented

Poor planning can lead to unsuccessful projects

Without detailed, authorized planning, the chances of completing a project on time, on budget, and of sufficient quality to satisfy stakeholders are reduced. Adequate planning reduces the risk of rework and, in the case of technical review, supports informed and timely decision making.

Inadequate coverage may compromise accountability

Without expanding its analysis to cover major aspects of its royalty regimes, the Department will not have or present a complete view of the effectiveness of its royalty regimes or the magnitude of the issues, especially related to the objective of maximizing revenues from its oil, gas, and oil sands resources.

Weak reporting may leave unclear messages

Without clear presentations, the Department risks presenting an incomplete or unclear message to its audiences. For clarity, decision making, and accountability purposes, formal reporting has advantages over presentations.

6.3 Improving annual performance measures

Recommendation No. 11

We recommend that the Department of Energy improve its annual performance measures that indicate royalty regime results.

Background

The Department reports two measures annually

There are two measures that speak to the issues addressed by royalty review.

- "Sharing the profits from resource development". This measures crown revenue share as a percent of the oil and gas industry's annual net operating revenue. Due to volatility, the measure calculates a three-year moving average. The target is 20% to 25%. This addresses the government take portion of the basic royalty regime equation, fair share vs. competitiveness.

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[22] These can be found at: http://www.energy.gov.ab.ca/842.asp.

- "Resource development". This measures annual industry investment in the upstream oil and gas industry. The target is $15 billion per year or higher. This addresses the competitiveness portion of the basic royalty regime equation, fair share vs. competitiveness.

The profits measure fell out of range for calendar year 2004 (reported in the Ministry of Energy's 2005-2006 *Annual Report*) and will remain at 19% for 2005. Results for resource development have exceeded the target in recent years.

Criteria: the standards we used for our audit

The Department should periodically and publicly report information about the performance of its royalty regimes against program objectives.

Our audit findings

Sharing the profits

Profits measure does not follow same methodology as technical review

The Department indicates that this measure is a "dashboard light", intended to indicate trends. Its approach is different from the Department's royalty review work. The measure is historical, a year-by-year snapshot of aspects of economic performance. For example, it includes royalties but not bonuses; it contains operating but not capital costs. By comparison, technical review is forward looking and follows the economic rent model. It calculates the net cash flow of the full life cycle of oil and gas industry projects, including all major revenues and expenditures.

The Department does not reconcile the measure to technical review results

The Department does not reconcile the one approach to the other, so it is not clear how sensitive the measure is in comparison to detailed technical review work. Indeed until the 2005-2006 *Annual Report*, the measure indicated successful performance by the royalty regimes while technical review suggested a different result. Senior management of the Department do not feel confident about the measure and intend to refine or change it. The public royalty review panel may comment on performance measures. Whatever new measures may be developed, the Department should ensure they agree with (if they do not use) the results of its technical review.

Measures may need to distinguish oil sands from conventional regimes

In its performance measure, the Department will need to consider how to deal with the underlying differences between conventional oil and gas business and oil sands business. As oil sands grow in importance, the Department's current measure is likely to continue to fall because royalty rates in the pre-payout period are small compared to net revenue. Management has mentioned splitting the current measure into two parts but have not begun to develop new measures.

Influences on the measure's results not analyzed or quantified

Another problem with the measure's lack of precision is that it is difficult to interpret what influences its movement up or down. As a result, the discussion of results lists a number of issues but it is not clear how much each issue impacts the measure, if at all. Until 2006–2007, the issue of royalty caps was not mentioned although a knowledgeable reader would have to assume this is a major factor. The Department has not analyzed or quantified the impact of the reported issues on the measure.

Resource development

Measure is not indexed for inflation in costs

This is a useful measure to indicate overall direction of competitiveness and whether Alberta is still attractive to investors. The target has remained at $15 billion since its introduction in 2003. In recent years, industry has experienced rapidly rising costs for upstream energy exploration and development projects. The measure is not indexed for general or industry-specific inflation. The Department should consider indexing its measure or highlighting this information in its description and discussion of the measure.

Implications and risks if recommendation not implemented

Without well-designed and analyzed performance measures, the Department will not accurately portray whether its royalty regimes are successful in meeting their objectives. Public information about royalty regime issues will promote the timely resolution of those issues.

6.4 Periodic public information

Recommendation No. 12

We recommend that the Department of Energy periodically report on the province's royalty regimes. Periodic public reports should use the methods and tools of technical review to:

- **Provide information to owners, MLAs, and stakeholders about the performance and issues for Alberta's royalty regimes;**
- **Demonstrate the Department's capacity and methodology to analyze its royalty regimes.**

Background

Every year, the Ministry of Energy releases audited financial statements that report the billions of dollars collected by Alberta's royalty regimes.

The Department reported results of a royalty review in 2003-04

In its *2003–2004 Annual Report*, the Department reported it had completed "a review of Alberta's royalty structure and competitiveness". It reported that the conventional oil and gas regimes "successfully encourage[ed] continued development while collecting a fair share of resource development profits".

The oil sands regime "continues to function as designed by successfully attracting capital investment and increased production."

Since then, royalty review is "ongoing"

Since the *2003–2004 Annual Report*, the Department has reported in its *Annual Plans* and *Reports* that royalty review is an ongoing process. From time to time, government ministers have confirmed the ongoing status. Since the public royalty review panel began its work in December 2006, the Department has begun to make "Royalty Information Briefings" available on its website. These papers describe the royalty regimes but do not disclose all major technical review processes or results.

Criteria: the standards we used for our audit

The Department should periodically and publicly report information about the performance of its royalty regimes against program objectives.

Our audit findings

Dollars collected by the royalty regimes are not enough to judge stewardship

From time to time, politicians observe that the province annually collects billions of dollars through its royalty regimes and as a result runs annual surpluses. To some, this indicates that the regimes are effective. However, Albertans should think like owners when considering their oil and gas resources. Owners will want to consider not only the number of dollars collected but also whether that number of dollars is appropriate. Owners should have the information necessary to confirm the Department's stewardship performance. With that information, owners, MLAs, and stakeholders can ask relevant questions.

No information about technical review has been available

We outlined the technical review work done by the Department earlier in this report. None of the presentations or documents flowing from technical review have gone to the public except through FOIP requests. Nor can owners determine how the Department analyzes its royalty regimes. The Department does not disclose its approach to or results from analyzing its royalty regimes. The principles of transparency and accountability dictate that the Department should demonstrate its stewardship of Alberta's royalty regimes and provide analysis to support that statement. This has not happened.

The Royalty 101 approach extended to owners

What information should be presented? The Department recognized the need to educate legislators about the oil and gas industry and Alberta's royalty regimes. The Royalty 101 presentations were the result. With that background, government MLAs have a foundation on which to judge royalty matters. Owners need the same kind of education and information. A public report that covers the same ground as Royalty 101 would benefit a wider Alberta audience.

The beginning of an outline for public reporting already exists

What should a public report contain? The outline of Royalty 101 provides a starting point:

- A description of what the Department does to monitor and analyze the oil and gas sector.
- An overview of the oil and gas sector, including components about prices, costs, investment, and impact to Alberta's economy;
- The nature of Alberta's reserves;
- The theory and practice of royalty regimes and economic rent;
- The evolution and current status of Alberta's royalty regimes;
- Modeling Alberta and other jurisdictions' scenarios;
- Inter-jurisdictional comparisons;
- Issues for Alberta's oil and gas sector.

Report with the regimes' objectives in mind

One element is missing from this preliminary list. The Department's public reporting would have to analyze performance against the objectives set out for the royalty regimes. With this information, readers can understand both how the Department fulfills its responsibilities and whether Alberta's royalty regime objectives are being met.

This is education and information, not policy advice

The Department is concerned that reporting may prematurely expose policy considerations and advice to the public. The public reporting need not contain policy conclusions or recommendations any more than Royalty 101 contains conclusions or recommendations. But as these public reports would essentially be the only source of detailed information about the performance of Alberta's royalty regimes, they need to be complete, candid, and well-written. We believe it unlikely that any one or small group of annual performance measures would satisfy Albertans the way this public reporting could.

"Periodic" must result in timely information

The oil and gas environment changes rapidly enough that technical review is regularly required. Indeed, the Department says in its *Annual Report* that the process is ongoing. By "periodic" public reporting, we envision a routine frequency that ensures owners, MLAs, and stakeholders get timely information and do not have to worry that the available information is stale. A defined reporting schedule may also add rigour to the planning of the Department's technical review work, an issue with the current system as we discussed in recommendation 6.2.

Finance Investments does this type of reporting

Other Alberta government entities publicly report to satisfy Albertans about the stewardship of Crown assets. For example, Alberta Finance manages another huge asset pool, the province's billions of dollars of investments including the Alberta Heritage Savings Trust Fund. Alberta Finance publishes a wealth of information and analysis about its investment objectives, types of investment pools, rates of returns, and comparisons with other investment funds. The Department of Energy should consider the same level of accountability for the stewardship of Alberta's oil and gas resources.

Requirement might be legislatively mandated

The Ministry of Energy should consider making this periodic public reporting a legislative requirement. In this way, information would be provided to owners, MLAs, and stakeholders no matter what circumstances unfold between public reports.

Implications and risks if recommendation not implemented

With information, debate on royalty regimes will be stronger

If the Department of Energy does not make this information public, owners, MLAs, and stakeholders will not have access to the facts about the province's royalty regimes. Better understanding of the issues promotes informed debate about current issues, in both the legislature and other public forums. Stronger debate should lead to timelier and better justified decisions.

Lack of information can result in misdirected effort

Without information, owners, MLAs, and stakeholders can misdirect their efforts. For example, in 2006 a great deal of discussion inside and outside the Legislature focused on whether the Department had performed a royalty review. The time could have been better spent discussing the royalty regimes themselves.

6.5 Enhancing controls

Recommendation No. 13

We recommend that the Department of Energy enhance controls for its monitoring and technical review work.

Background

Earlier we outlined the Department's methodology, tools, and processes for royalty review. These systems depend heavily on the training, experience, and dedication of individual staff members to succeed.

Criteria: the standards we used for our audit

The Department should have effective, efficient systems in place to monitor developments in the oil and gas environment and perform its technical review to determine whether its royalty regimes continue to meet objectives.

Our audit findings

Departmental staff do a great amount of good work on royalty review. However their systems and practices can improve, particularly where they can mitigate operational risks through better control. In implementing this recommendation, the Department should balance the benefits with the cost of increased control. This is key for activities that rely so heavily on employees' individual expertise.

Documenting complex business practices

Documentation mitigates risks of staff turnover

The Department's royalty review systems depend heavily on the quality of the people doing the work. We found that these employees have the education, training, experience, and initiative to do the job. But what happens if these employees leave? How can the Department minimize the disruption that would take place in replacing them? One control is to ensure that employees document their complex business processes.

Complex royalty review processes are not documented

In general, we found that employees in the royalty review business unit groups have not documented their practices. For example, the gas group contracted with a consultant to prepare detailed production data for the Department's royalty modeling. The consultant did a good job documenting what he did. But once the consultant's data arrived in the group, employees performed a complex seven-step analysis to massage the data for further use. This seven-step process has not been documented. In a similar vein, the oil group began to document its technical review processes only when we asked at the beginning of our audit.

Review and sign-off

Data input errors can and have happened

Most of the technical review work is economic modeling and depends on the collection and analysis of large data sets. During the audit, we examined samples of these models in detail. We found they include data entry errors. In the most important case, the employee made a transposition mistake in manual data entry for abandonment costs. He made the same manual data input error across four gas field types and across the five-year timeframe of his analysis. The employee who made that error both inputs large volumes of data and checks the accuracy of his own input. This is common practice in these groups. Fortunately, none of the errors that we found had a significant impact on the calculated results. However, if there were significant input or calculation errors, the groups do not have controls to catch them before reviewing the final result.

Groups do not have detailed data entry or calculation controls

The business unit groups do not have a system to check manual or automated data entry, nor to ensure that complex spreadsheets calculate accurately. At present, the director of the group usually makes a cursory review of the finished product. There is no sign-off of completed products by preparer or reviewer. High level review by business unit leaders or assistant deputy ministers may also identify data or calculation errors. However, the groups should consider a more rigorous control methodology.

Document internal sources of report contents

Groups do not reference the specific sources for material in final reports

As a rule, the royalty review groups do not cross-reference the material in presentations or reports to internal sources. The presentations and reports that we examined contain Department-generated graphs; over time readers can see the results change. These graphs are generated by analytical software like ValueNavigator. Where graphs change over time, there could be any number of input or methodology reasons for the change. The Department does not cross-reference the graphs in particular reports to their specific source, so when asked why a change has taken place, it may not be able to answer.

To identify the source of material in reports may be onerous

For example, the graph depicting the comparative government shares of economic rent between Alberta and the ten-state American average is a standard item. It is generated by the TEAM software. We asked why the results changed from report to report. For example in a three-month period, the Alberta share for high-price natural gas moved from 50% to 57% while the ten-state average changed from 65% to 62%. While staff could suggest reasons for these changes, it would be an onerous task for them to identify the underlying support and provide detailed explanations for these changes.

Results in reports may change for many reasons

Part of the issue may be that the presentations themselves do not precisely define what the graph is displaying; they may portray related but different scenarios. Analytical methodology may have changed slightly from one presentation to another. In other cases, there may be legitimate reasons for the variations such as changes in regime. But unless the Department keeps track of the source for its presentation material, it will find it difficult to explain apparent inconsistencies.

Document questions and answers

Questions often drive review, but no system to monitor questions or answers

At the beginning of our audit, Departmental staff told us that much of their royalty review work responds to questions about the royalty regimes. These questions may be generated through the Department's own monitoring of the oil and gas environment or from ministers, MLAs, or other stakeholders. Staff also told us that the questions tend to evolve as work is completed so that in the end the Department has answered a related but different question. However, when we asked what were the original questions, the final questions, or even the final answers, Departmental staff could not provide us with that information. A system to track questions would help organize and standardize the groups' technical review work.

Implications and risks if recommendation not implemented

Without documentation and control, new employees do not have appropriate background and support to learn their positions. Without documented and controlled processes, the Department runs the risk of incurring a significant error in its royalty review work and not detecting it. Without a management trail to trace from final reports back to source material, the Department may not be able to explain their results efficiently or effectively.

The Government's revenue forecasting systems

1. Summary: what we found in our audit

Governments need reasonable estimates

Governments need to prepare reasonable revenue forecasts. They need this information to set their fiscal plans and priorities. In most Canadian jurisdictions, legislators have passed balanced budget legislation. So when governments prepare their annual budget, they need a reasonable estimate of their revenues so that they can determine their spending priorities and allow for in-year emergencies. As a result, all governments tend to be prudent in forecasting revenue. The Province of Alberta is no different.

Budgeting is difficult

Forecasting revenues is a challenge, particularly those that are dependent on general economic conditions. The Government of Alberta has several revenue sources such as non-renewable resource revenues, personal and corporate income taxes and investment income that are significantly affected by economic conditions. As a result, preparing budgets and forecasts for these revenues is difficult. Non renewable resource revenues are subject to the most volatility, and the conditions causing the variations in these revenues also affect personal and corporate income tax revenues. Since the majority of the government's revenues come from non-renewable resource revenues and income tax revenues one would expect variation between budget and actual revenues.

Does the government have adequate systems for preparing revenue budgets and forecasts?

The objective of our audit was to see if the government has adequate systems for preparing budgets and quarterly forecasts. We also wanted to see if the budget and quarterly forecast updates provide readers with sufficient information to understand the forecasts, key assumptions and sensitivities. We focused our work on the government's most significant revenue sources: non-renewable resource revenues, investment income, personal income taxes, corporate income taxes, and gaming and liquor revenues.

Government's forecasting systems exist and are operating effectively

The government has systems for forecasting its significant revenues and generally they are operating effectively. Departments use models to prepare revenue budgets and forecasts that rely on assumptions about economic conditions. All departments update the forecasts as new information and actual data becomes available. The government updates all revenue forecasts quarterly and discloses this information in its quarterly fiscal updates. The government's budget and quarterly updates disclose the revenue forecasts and related assumptions and sensitivities. This helps users understand the revenue budget and the potential volatility in the government's revenues. The budget for the year ending March 31, 2008, includes a new surplus allocation policy which sets out the use of any additional revenues received in the year.

Variances in revenues mainly due to factors beyond government's control

The province's actual revenues have exceeded budgets by over $4 billion in each of the last 4 years or an average of $5.7 billion. A significant portion of this variance is due to factors beyond the government's control and not easily predicted by the government or other forecasters. In the past few years, economic growth in Alberta has exceeded the expectations of all forecasters. This unexpected growth has resulted in actual government revenues that have significantly exceeded budgets. This particularly applies to variances related to non-renewable resource revenues.

Government can enhance its revenue forecasting systems and disclosure in the budget

The government can enhance its methodology for budgeting and forecasting investment income and personal tax revenues. The government also needs to improve its model for estimating corporate taxable income, which is the basis for the corporate income tax revenues budget and forecast. The government can also enhance the disclosure of revenues in the budget documents to help readers understand the key assumptions for the non-renewable resource revenues, investment income sensitivity to changes in rates of return on equity investments, and the potential volatility of the government's total revenue budget.

The following is a summary of the reasons for the significant variances in revenues and our recommendations to improve the government's systems:

Explaining key assumptions

- **Non-renewable resource revenue**—significant variances between budget and actual results are caused by supply and demand factors in the energy market. The volatility of the energy market makes it very difficult to predict prices used for forecasting non-renewal resource revenue. Energy's oil and gas price forecasts are typically between the low and average of other forecasters and significantly lower than actual prices. However, the average of other forecasters has not been much more accurate when compared to actual prices in recent years. The budget discloses the range of potential volatility in the revenue based on the other forecasters. The budget documents can be improved by explaining Department of Energy's key assumptions and how they are different from those of other forecasters and market conditions. This information is critical for the users of the budget documents to understand the budget (see recommendation no. 16, page 149).

Incorporating return from active management of the Heritage Fund

- **Investment income**—most of the past variances arise because the actual rates of return exceed the expected rates of return in the budget. Finance uses external forecasters' estimated average long-term rates of return to prepare the investment income budget. As a result, actual results will always differ from forecasts. Finance can improve its processes by incorporating the return from active management of the Alberta Heritage Savings Trust Fund in the forecast of investment income (see recommendation on page 142). Finance can also improve the disclosure of the sensitivity of the investment income forecast to changes in the rates of return earned on equity investments (see recommendation no. 16, page 149).

Method for estimating historical personal income growth

- **Personal income tax**—the majority of the variance between budget and actual revenues is because Finance uses historical personal income growth data that can change significantly. Finance needs to improve its method for estimating historical personal income growth (see recommendation on page 143).

Model for estimating corporate taxable income and refunds payable

- **Corporate income tax**—the main reason for the variance between budget and actual revenues is the forecast of corporate taxable income. Finance currently uses a model for estimating corporate taxable income that has not been consistent with actual results. Finance should improve its model for estimating corporate taxable income (see recommendation no. 14, page 145) and corporate income tax refunds payable (see recommendation no. 15, page 146).

In our opinion, implementation of our recommendations will help government improve its revenue forecasting processes, particularly for the corporate income tax revenue. Users of budget documents will also have better information to understand the government's revenue forecasts and the impact of significant assumptions on forecasted revenue.

Our report format

This report includes a summary of our audit objective and scope, background and audit criteria. The report focuses mainly on our audit conclusions and recommendations for each of the six revenue forecasting systems (non-renewable resource revenue, investment income, personal income tax, corporate income tax, transfers from the Government of Canada, and gaming and liquor) that we examined. The last section of the report focuses on the government's public reporting of the revenue forecasts. Additional information on the revenue forecasting systems and a comparison of the budgeted and actual revenues for each revenue forecast is included in the Appendix.

2. Audit objectives and scope

The purpose of the revenue forecasting systems audit was to see if:

- the government's forecasting systems used for preparing the budget and subsequent quarterly updates are adequate and produce reasonable forecasts.
- government budgets and quarterly updates provide sufficient information for users to understand the forecasts and impact of significant assumptions on the forecasts.

To do so, we examined processes:

- at three departments—Energy, Finance, and Gaming—for preparing revenue budgets and forecasts for non-renewable resource revenue, investment income, personal and corporate income tax revenue, transfers from the Government of Canada and gaming and liquor revenue.
- at the Department of Finance—for reviewing and compiling the individual forecasts into the budget and the quarterly updates.

We also assessed the reasonableness of:

- assumptions that the departments use in developing revenue budgets and quarterly forecasts, and
- the sensitivity analyses and other information reported in the budget documents and the quarterly updates that Finance prepares.

The audit focused on the budget and quarterly updates for the years ended March 31, 2006 and 2007. In preparing our final report, we considered system changes that Finance and the departments made in preparing the budget for the year ending March 31, 2008.

3. Background

Forecasting

Forecasts are management's best estimate

All forecasts will inevitably be inaccurate to some degree. However, forecasts should be management's best estimate of what may occur in the future based on experience, current knowledge and expectations of future trends. Forecasts are not certain and often have assumed probabilities related to their outcomes. In essence, revenue forecasts are management's best estimate of the anticipated revenues to be earned during the year. Several unpredictable external factors affect certain revenue sources such as non-renewable resource revenues. The nature and extent of the uncontrollable external factors that influence each revenue source affect management's ability to determine a reasonable forecast.

Good forecasts and forecasting systems have the following attributes[1]:

- Their methodology considers all relevant factors and assumptions and the forecasts are consistent with the methodology.
- Their assumptions are realistic and updated based on new information.
- The validity of their assumptions is challenged and verified.
- They explain the impact of non-controllable external factors on forecasting.
- They monitor actual results and continuously assess the reasonability of the methodology and assumptions.
- They consider similar forecasts and data from third party forecasters.
- They include all relevant information, such as sensitivity analyses, so readers can understand the forecast and the assumptions that underlie it.

Key assumptions are important

The reasonability of revenue forecasts depends on the appropriateness of the methodology and the quality and timeliness of the data used to determine the key assumptions. Good systems to review and challenge the appropriateness of the forecasts and assumptions can also improve the reliability of the forecasts. Disclosure of key assumptions and sensitivities for significant revenue forecasts is also critical to ensure that readers understand the potential volatility inherent in the revenue forecasts.

Government of Alberta revenue forecasting framework

Fiscal plan (budget)

The requirement for preparing government fiscal plans and ministry business plans is in the *Government Accountability Act*. Under this Act, the Minister of Finance must prepare a fiscal plan (budget) for the government, including total revenue and a breakdown by revenue source. The fiscal plan must explain the major economic assumptions made in preparing the plan, including the effect of changes in the assumptions. It must also describe the anticipated economic conditions for the fiscal years it covers. Within two months of each subsequent quarterly period, the Minister of Finance must report publicly on the fiscal plan's accuracy.

In Alberta, the *Fiscal Responsibility Act* prohibits budget or in-year deficits (as defined by the Act). Under this Act, in fiscal 2006, non-renewable resource revenue in excess of $4.75 billion was not available for operating spending. It had to be transferred to the Alberta Sustainability Fund. This fund can be used only to help protect future operating and capital spending from short-term revenue declines. It can also be used to cover emergencies, disasters, natural gas rebates and settlements with First Nations.

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[1] We developed these attributes by consulting a variety of sources and selecting the ones we thought were most relevant to the Government of Alberta.

Business plans

The *Government Accountability Act* requires ministers to prepare a business plan for their ministry for each fiscal year, in a form and at a time acceptable to Treasury Board. Each ministry business plan must include a summary of the total revenue for the ministry, as well as any other information that Treasury Board or the minister consider appropriate. The Department of Finance uses this and other information from ministries to prepare the consolidated fiscal plan and annual budgets. Finance also obtains quarterly fiscal updates and forecasts from ministries, which it uses to prepare the public report on the fiscal plan's accuracy.

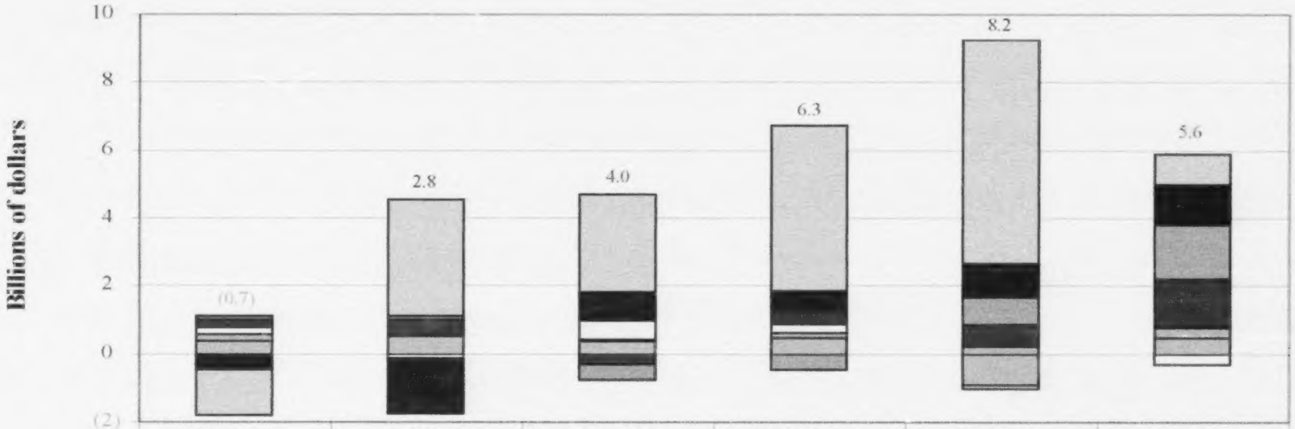
Surplus allocation policy

In the March 31, 2008 budget, the government announced an in-year surplus allocation policy. The policy states that if the projected surplus is higher than the budget, the government will allocate one-third of the additional cash available to savings and investments, while the remaining two-thirds will be allocated to capital. At least half of the capital allocation will be used for ongoing maintenance and rehabilitation of existing capital assets.

3.1 Variance between Budgeted Revenues and Actual Results–2002 to 2007

The chart below shows that government's actual revenues have been significantly higher than budget for the past five years. Non-renewable resource revenue is the main reason for the difference. Personal and corporate income taxes and investment income also contribute to it.

Variance between budgeted revenues and actual results 2002 - 2007



	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Total Variance	(0.7)	2.8	4.0	6.3	8.2	5.6
▨ Non-renewable resource revenue	(1.3)	3.4	2.9	4.9	6.6	0.9
■ Investment Income	(0.5)	(1.6)	0.8	0.6	1.0	1.2
▨ Personal Income Tax	0.1	0.1	(0.4)	(0.4)	0.8	1.6
■ Corporate Income Tax	0.3	0.5	(0.3)	0.4	0.6	1.4
□ Transfers from Governmnet of Canada	0.2	(0.1)	0.5	0.3	(0.1)	(0.3)
▨ Gaming and Liquor	0.2	(0.0)	0.0	0.1	0.2	0.3
▨ Other revenue	0.4	0.6	0.4	0.5	(0.9)	0.5

4. Criteria

Audit criteria

To provide a structure at the beginning of our work, we developed and agreed with management on audit criteria to assess the systems for preparing and reporting forecasts in the budget and quarterly fiscal updates. These high-level criteria were:

1. Departments should have systems to prepare reasonable revenue budgets and quarterly forecasts. The systems should:
   - clearly define the methodology for determining the forecast.
   - develop assumptions consistent with economic and market conditions.
   - prepare forecasts consistent with the methodology and assumptions.
   - develop a range of possible outcomes and a sensitivity analysis for each forecast.
   - ensure that forecasts are suitably supported and accurately compiled.
   - review and challenge the reasonableness of forecasts.
   - assess actual results against forecasts to evaluate the reasonableness of the methodology and the assumptions.

2. The Department of Finance should have systems for ensuring that revenues included in the budget and quarterly updates are reasonable.
3. The Department of Finance should ensure the budget documents and quarterly updates include sufficient information for users to understand the revenue forecasts and the impact of significant assumptions on the forecasts.

The following sections include our conclusions and recommendations for each of the revenue streams in relation to criteria 1. The last section summarizes our conclusion and recommendation for criteria 2 and 3.

5. Conclusions and recommendations

5.1 Non-renewable resource revenue

Background

Non-renewable resource revenue over $10 billion

The Department of Energy (Energy) is responsible for preparing the budget and forecasts for non-renewable resource revenue. Energy uses data from its own models, consultants, past experience and knowledge of current market conditions to determine revenue. Non-renewable resource revenue exceeds $10 billion or 30% of the government's annual revenues; natural gas is the most significant of these revenues at $6 billion or more[1]. An overview of

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[1] Government of Alberta Budget 2007 *Fiscal Plan*

Energy's revenue forecasting systems and a comparison of the budgeted and actual revenues (2002–2007) are in the Appendix.

Conclusion

Systems are effective

Energy has systems to budget and forecast non-renewable resource revenues. The methodology and assumptions for forecasting oil and natural gas revenues are clearly defined. Energy monitors the variance between actual and budgeted revenues to verify the reasonableness of the models and the assumptions. In 2007, Energy revised the oil price model because it was not working properly.

Variance beyond Energy's control

Actual non-renewable resource revenue has exceeded budget by, on average, 70% in the last five years. The majority of the variance between budgeted and actual revenues is due to factors beyond the Energy's control. Actual oil and natural gas prices have significantly exceeded Energy's forecasts and the estimates of other forecasters. In most years, the actual prices have exceeded the average price of other forecasters and in some cases, the highest price predicted by other forecasters. Even if Energy had used the average price of other forecasters to prepare the annual budget, actual results would still have varied significantly from budget.

Information provided to users could be improved

The budget documents and quarterly updates include information on the non-renewable resource revenue forecast and sensitivity analysis. Energy provides a range of outcomes for the forecast in relation to other forecasters to help users understand the potential volatility in the forecast. There is an opportunity to further improve the information provided to help users understand the difference between Energy's assumptions and those of other forecasters (see recommendation no. 16, page 149).

5.2 Investment income

Background

Investment income $2.5 billion

The Department of Finance is responsible for preparing and updating the forecast for investment income. Investment income is approximately $2.5 billion or 7% of the government's annual revenues[2]. For the 2007 fiscal year, the portfolio investments of the Alberta government were approximately $33 billion[3]. Approximately $21 billion (64%) was invested in fixed-income securities and the remaining $12 billion was invested in equities and other investments[4]. An overview of Finance's systems for determining investment income and a comparison of the budgeted and actual revenues (2002–2007) are in the Appendix.

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[2] Government of Alberta Budget 2007 *Fiscal Plan*

[3] Consolidated financial statements of the Government of Alberta, *2006–2007 Annual Report*

[4] Consolidated financial statements of the Government of Alberta, *2006–2007 Annual Report*

Conclusion

Actual rates of return exceeded budget

Finance uses a model to forecast investment income and has systems to ensure that information used in the model is consistent with key assumptions and external forecasters. However, actual investment income has exceeded budget by, on average, 67% in the last four years. The main reason for this variance is that actual rates of return on equity investments have significantly exceeded the long-term rates of return that Finance uses to prepare the budget.

Opportunities for improvement

Finance can improve its method of forecasting investment income by incorporating the active management return earned on the Alberta Heritage Savings Trust Fund (see recommendation on page 142). There is also an opportunity to further improve the information provided to users of the budget to help them understand the investment income forecast and its sensitivity to changes in rates of return on equity investments (see recommendation no. 16, page 149).

5.2.1 Rates of return used to forecast investment income

Recommendation

We recommend that the Department of Finance incorporate the return from active management of the Alberta Heritage Savings Trust Fund in the forecast of investment income.

Our audit findings

Heritage Funds earns higher returns than market

One reason for the difference between budgeted investment income and actual revenues is that Finance does not incorporate the active management returns[5] of the Alberta Heritage Savings Trust Fund (Heritage Fund) into its forecasting. The Heritage Fund benefits from sophisticated investment strategies and routinely earns higher investment returns than market-based benchmarks.

Active management returns not incorporated in forecasts

The budget for 2007–2008 forecasts an expected return for the Heritage Fund of 7.8%, based on average market rates of return. However, the rate of return earned by the Heritage Fund historically been higher than the market rate. Also, the return from the active management of the Heritage Fund has not been incorporated into the investment income budget. Finance expects an active management return of 0.6%–1.0% for the Heritage Fund over the next three years.

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[5] Active management return is the excess return achieved by active fund management on investment performance. Active fund management has the objective of adding value above the benchmark return without assuming undue risk. This can be achieved by a variety of strategies such as derivatives-based strategies.

Implications and risks if recommendations not implemented

Incorporating actual rates of return earned by the Heritage Fund into the investment income forecast will help Finance improve the reliability of its investment income budget and forecasts.

5.3 Personal income tax revenue

Background

Personal income tax revenue $7 billion

The Department of Finance is responsible for preparing the budget and forecast for personal income tax revenue. Personal income tax revenue is approximately $7 billion or 20% of the government's annual revenues.[6] An overview of Finance's systems for preparing the personal income tax forecasts and a comparison of budgets to actual results (2002–2007) is in the Appendix.

Conclusion

Variance due to higher annual growth in personal income

Finance has systems to determine the budget and forecast for personal income tax revenue. The methodology and assumptions are clearly defined and produce reasonable results—when the assumptions are correct. However, actual personal income tax revenues have varied significantly from budgets; the average variance from 2002–2007 between actual and forecast is 11%, with the most significant variances in 2006 (16%) and 2007 (27%). There are two principal reasons for this difference. First, Finance like other forecasters underestimated the economic growth between 2004 and 2006 and the forecasted personal income growth. Second, Statistics Canada's preliminary estimates of historical growth in personal income were significantly below actual growth; this resulted in significant revisions to prior year's estimates. Finance needs to improve its method for estimating historical personal income growth (see recommendation below). The disclosure of the personal income tax revenues in the budget and quarterly updates is adequate.

5.3.1 Personal income tax forecast

Recommendation

We recommend that the Department of Finance improve its method for estimating historical personal income growth used to forecast personal income tax revenues.

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[6] Government of Alberta Budget 2007 *Fiscal Plan*

Our audit findings

Historical personal income growth data unreliable

The historical personal income growth data that Finance has used to forecast personal income tax revenue has been unreliable in the last two years. This has resulted in significant variances between budgeted revenues and actual results. Finance uses the most current historical data available from Statistics Canada to prepare its personal income tax revenue budget, but the historical data has been subject to large revisions for several years.

Statistics Canada produces historical data

Statistics Canada produces the personal income growth historical data on a calendar-year basis. Preliminary information on personal income is available for the previous calendar year in April of the following year. Statistics Canada produces revised information in November. Finance uses the November information to develop the budgeted revenue for the next fiscal year. The effect of using this information is as follows:

- In the budget for the year ended March 31, 2006, Finance forecasted the average income growth to be 5.7%. In preparing the financial statements for the year then ended, Finance revised the average income growth forecasts to 7.8%, based on preliminary income data from Statistics Canada and revised economic projections for 2006. The difference between budget and actual results for the year ended March 31, 2006 is more than $800 million.
- For the year ended March 31, 2007, Finance's forecast of income growth was 6.6%. In preparing the financial statements for the year then ended, Finance revised the forecast to 10.5%. The difference between budget and results reported in the financial statements is about $1.6 billion.

Adjustments of $331 million and $662 million to prior years' revenues

Because adjustments to prior year's revenues are recorded in the current year's financial statements they can result in significant variances between budget and actual in the current year. For example, the 2007 personal income tax revenue budget is based on 2006 and 2005 historical personal income growth data. Any significant change to the historical personal income growth data for 2006 will impact the accuracy of the 2007 budget as well as result in an adjustment to the 2006 revenue that was previously recorded. Adjustments to prior years' revenues caused $331 million of the variance between budgeted and actual revenues for fiscal 2006 and $662 million of the variance for 2007.

Implications and risks if recommendation not implemented

A better method of estimating historical personal income growth will help Finance improve the reasonability of its personal income tax revenue budgets and forecasts.

5.4 Corporate income tax revenue

Background

Corporate income tax revenue $3 billion

The Department of Finance is responsible for preparing the budget and quarterly forecasts for corporate income tax revenue. Finance's corporate income tax revenue budget is based on the estimated corporate taxable income and corporate income tax rates for the year. Corporate income tax revenue is approximately $3 billion or 10% of the government's annual revenues.[7] An overview of Finance's systems for determining corporate income tax revenues and a comparison of the budgeted and actual revenues (2002–2007) are in the Appendix.

Conclusion

Finance should improve model for forecasting corporate income tax revenues

Finance has systems to calculate and compile the corporate income tax revenue budget and forecast. However, the average variance between forecasts and actual results for 2002–2007 is 28%. Finance needs to improve its model for estimating corporate taxable income (see recommendation below). Also, Finance needs to improve the model that it uses to estimate the amount of corporate income tax refunds payable in preparing its estimate of accrued corporate income tax revenue at year-end (see recommendation no. 15, page 146). The disclosure of the corporate income tax revenues in the budget and quarterly updates is adequate.

5.4.1 Corporate income tax forecast

Recommendation No. 14

We recommend that the Department of Finance improve its model for estimating corporate taxable income.

Our audit findings

Data is subject to revisions

Finance's forecasting model uses corporate operating surplus (nominal GDP net of labour income) to proxy corporate taxable income. Forecasted GDP and labour income data come from Statistics Canada and is subject to significant revisions. Actual data on corporate taxable income is only available once corporate returns have been filed and assessed, usually within two years. The only other indicator of corporate profits in a year is the current corporate income tax collections; Finance uses this data to make in-year adjustment to its budget forecast in the quarterly reports.

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[7] Government of Alberta Budget 2007 *Fiscal Plan*

Finance does not track all factors that impact corporate taxable income

Finance uses a ratio based on prior years' corporate operating surplus to corporate taxable income to estimate corporate taxable income for the year. This ratio is to take into account all other factors, such as capital cost allowances, tax loss carry forward pools, and exploration and development expenses available to corporations to reduce corporate taxable income. However, Finance has not done any analysis to establish if this ratio is accurate in forecasting these other factors. Finance has not done this analysis because it does not track the data on capital cost allowances, loss pools, etc.

Difference between operating surplus and taxable income is significant

The difference between corporate operating surplus and corporate taxable income can be significant and may vary yearly. The yearly ratio of corporate taxable income to estimated corporate operating surplus varies between 16% and 26%. Because Finance does not track the data on the factors that influence the amount of corporate taxable income it cannot explain the reasons for the variation in the ratio.

Implications and risks if recommendation not implemented

If Finance is able to develop a better model for estimating for corporate taxable income, it will help improve the reliability of its budget and forecasts of corporate income tax revenue.

5.4.2 Estimating corporate income tax refunds

Recommendation No. 15

We recommend that the Department of Finance:

- **improve its method for estimating corporate income tax refunds payable, and**
- **adjust forecasted corporate income tax revenue to reflect actual results as soon as the information is available.**

Background

$900 million refund payable

In the fiscal year ended March 31, 2007, Finance recorded corporate income tax revenue of $3.6 billion in its financial statements. It calculated this amount using the corporate income tax payments it received from corporations in the fiscal year, less the amount it estimated would have to be paid back as refunds once it assessed the filed tax returns. The average of the refunds to receipts for the past five years is 20%, which the Department applied to the total receipts of $4.5 billion to calculate a $900 million refund payable.

In the past five fiscal years, the refunds-to-receipts ratio is as follows:

Fiscal year	2003	2004	2005	2006	2007
Refunds-to-receipts ratio	20.33%	27.10%	22.22%	16.12%	14.50%

Finance predicted corporations had overpaid instalments by 20%

By using the average of the ratios for the past five years, the Department predicted that corporations had overpaid their income tax instalments by 20%. The unprecedented strength of the Alberta economy over the last few years means that corporations are earning more income, using up their tax allowances and loss pools, paying more taxes, and receiving fewer and smaller refunds. The declining refunds-to-receipts ratio from 2004 to 2007 shows this.

Criteria: the standards we used for our audit

The corporate income tax refund payable should be the Department's best estimate, using all available information when it calculates the amount. The Department should regularly monitor the refund payable against actual results to ensure the estimate is reasonable. If it's not, the Department should adjust it to reflect actual results as soon as the information is available.

Our audit findings

The Department has been using this method of estimating refunds payable for three years. There is now sufficient evidence to assess its capability of producing accurate results. Information to make this assessment became available only in July and August 2007, as the majority of corporations had filed their 2006 tax returns, and the Department had assessed them.

Refund payable may be too high

The Department has paid refunds from April to July 2007 of $276 million. In the same months in 2006, 2005, and 2004, it paid $273 million, $208 million, and $306 million, respectively. There is no evidence that the Department has slowed down the assessment process compared to prior years, so total refunds will likely not significantly differ from the prior years. Extrapolating the refunds to the rest of the year, we estimate the Department will pay out, in total, approximately $500 million. Based on this estimate, the $900 million refund payable, which reduces corporate income tax revenue, appears to be overstated by approximately $400 million.

Department needs to adjust corporate income tax revenue

In the fiscal year ending March 31, 2008, the Department will need to improve the method it uses to estimate refunds payable, and adjust corporate income tax revenue. While the Department won't know with certainty what corporate income tax revenue for fiscal 2007 will be until all of the assessment data is in and the taxation year is closed—this usually takes two years—there is no evidence that refund payments will be significantly different than in prior years. Therefore, the Department should not wait to adjust corporate income tax revenue, because it has the necessary information to make a better estimate now.

Implications and risks if recommendation not implemented

Corporate income tax revenue recorded in the government's annual financial statements may be understated. The amount of corporate income tax refunds that have been over accrued will not be available to fund government priorities.

5.5 Transfers from the Government of Canada

Background

Transfers from Government of Canada $3 billion

The Department of Finance is responsible for estimating the revenue receivable from the federal government. Transfers from the Government of Canada are approximately $3 billion or 10% of the government's annual revenues.[8] The Canada Health Transfer (CHT) and the Canada Social Transfer (CST) make up the majority of the revenues from the government of Canada. Other transfer revenues relate to funding for agricultural programs and other programs. An overview of Finance's systems for determining transfer revenues and a comparison of the budgeted and actual revenues (2002–2007) are in the Appendix.

Conclusion

Budgets reasonably consistent with actual results

Finance has systems for preparing the revenue budget and quarterly forecasts for transfers from the government of Canada. These systems have produced revenue budgets reasonably consistent with actual results. On average, budgets have been within 10% of actual revenues for the last six years (2002-2007). However, the problems with Finance's methods for forecasting personal income tax and corporate income tax revenues also impact its forecast of transfers from the government of Canada (see recommendation on page 143 and no. 14, page 145). The disclosure of the transfer revenues in the budget and quarterly updates is adequate.

5.6 Gaming and liquor revenue

Background

Gaming and liquor revenue $2 billion

The Alberta Gaming and Liquor Commission is responsible for preparing gaming and liquor revenue forecasts included in the government's budget and quarterly updates. Gaming and liquor revenues comprise approximately $2 billion or 6% of the government's annual revenues.[9] An overview of the Commission's systems and a comparison of the budgeted and actual revenues (2002–2007) are in the Appendix.

Conclusion

Budgets reasonably consistent with

The Alberta Liquor and Gaming Commission has adequate systems for preparing and updating the gaming and liquor revenue budget and quarterly actual results

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[8] Government of Alberta Budget 2007 *Fiscal Plan*

[9] Government of Alberta Budget 2007 *Fiscal Plan*

forecasts. These systems have produced revenue budgets reasonably consistent with actual results. Gaming and liquor revenue budgets, on average, have been within 8% of actual revenues over the last 6 years (2002-2007). The disclosure in the budget and quarterly updates on gaming and liquor revenue is adequate.

5.7 Public reporting of revenue forecasts

Background

Departments are primarily responsible for preparing revenue budgets and quarterly forecasts. Finance gathers revenue forecast information from ministries, departments, and agencies and compiles it in the budget. Finance reviews revenue forecasts to ensure they are consistent with its expectations and based on market conditions, and to verify that the information is accurately compiled. Treasury Board reviews and challenges the budget and quarterly forecast updates.

Information in budgets documents and quarterly forecast updates

Important information on revenue forecasts in the budget documents includes the revenue table, key assumptions, sensitivities to key assumptions, and the economic and revenue outlook. Important information in the subsequent quarterly forecast updates includes the changes to the revenue table and discussion of the reasons for change.

An overview of Finance's systems and the disclosure of forecasts in the budget are in the Appendix.

Conclusion

Finance can further improve information

Finance improved the information provided on the revenue forecasts in the budget for the year ending March 31, 2008. The sensitivities disclosed in the budget are reasonable. Finance can further improve the information provided on the assumptions and revenue forecasts, particularly for investment and non-renewable resource revenue (see recommendation below).

5.7.1 Public reporting of revenue forecasts

Recommendation No. 16

We recommend that the Department of Finance enhance the public reporting of revenue forecasts by:

- **explaining the difference between the government's non-renewable resource revenue forecast and those of other private sector forecasters.**
- **disclosing investment income sensitivity to changes in rate of return earned on equity investments.**
- **explaining the expected range for the government's total revenue forecast including the reasonability of previous forecasts.**

Our audit findings

Finance can improve the budget documents by providing further information on the key assumptions and range of outcomes for revenue forecasts to help users better understand the government's overall forecast.

Non-renewable resource revenue

Finance should explain how Energy determined oil and natural gas price forecasts

Finance should explain in the budget the factors that Energy considers in forecasting the price of oil and natural gas and why and how these factors are different from those of other forecasters. Budget documents disclose the key assumptions and the range of possible outcomes for non-renewable resource revenue using price projections from various independent private forecasters. The price forecasts of private sector forecasters included in the budget document vary significantly from each other because they are prepared for different purposes and based on different factors. The forecasts are included in the various tables without any explanation of the different factors considered by the forecasters and Energy in forecasting the prices. The budget documents also do not explain why factors Energy considers differ from other forecasters.

Investment income

The disclosure of the investment income forecast in the budget can be enhanced by providing additional information on the sensitivity of the investment income budget to changes in rates of return and information on the actual rates of return earned by the Heritage Fund.

Should have sensitivity analysis for investment income

The budget documents include interest rate sensitivities in forecasting investment income, but interest rates primarily affect forecasts for fixed-income investments. A sensitivity analysis of the impact of changes in the rates of return for equity investments would be a useful addition to the budget and quarterly updates. This analysis could help users understand the impact of changes in the rates of return on the investment income budget and the inherent variability in the budget.

Need information on actual rates of return

The budget documents include information on expected returns for the Heritage fund based on fair market value and one–year and five–year market returns. This information, though useful, is not sufficient to assess the investment income forecast. Actual prior-year investment returns earned by the Heritage Fund are not disclosed, even though they are more relevant to the actual asset mix and expected returns than market returns. The Heritage Fund's business plan, released with other budget documents, includes information relating to the investment income forecast; however, the budget documents do not refer to this information.

Government revenue forecast variability

Information on the basis for the potential range in total revenue forecast

Starting with the budget for the year ending March 31, 2008, Finance disclosed that the revenue forecast could be up to 10% higher or lower than the budget estimate and that non-renewable resource revenue could be between $8 and $12.5 billion. Finance could improve this disclosure by providing readers with some further information on the basis for the range and its implications. Also, information on the accuracy on the past forecasts would be useful for users help users understand the reasonability of the range.

Implications and risks if recommendations not implemented

By including adequate information about the assumptions and a complete sensitivity analysis, Finance will help the readers of the budget assess the reasonableness and potential volatility of the government's revenue forecasts.

The Government's revenue forecasting systems—appendix

1. Non-renewable resource revenue

1.1 Overview of forecasting systems

Methodology and assumptions

Natural gas and oil prices depend on supply and demand. Natural gas supply is influenced by the number of gas wells drilled in North America and the productivity of the wells. Natural gas demand is influenced by economic growth, weather and supply of competing oil products. Because fuel oil can substitute for natural gas, oil prices have a significant impact on natural gas prices. Oil supply is influenced by world production capacity, while oil demand is mainly influenced by economic growth.

Energy uses three main models to forecast natural gas and oil royalty revenue:

1. a model to forecast oil prices;
2. a model to forecast natural gas prices
3. a model to calculate the natural gas and oil royalty revenue forecast based on forecasted natural gas and oil prices, volumes, exchange rates and legislated royalty formulas.

Oil-price forecast model—the major drivers for the oil price model are:

- non-OPEC production growth;
- OPEC spare capacity (OPEC capacity less OPEC production);
- OPEC long term price target;
- world economic growth;
- demand;
- storage levels.

Energy changed the oil price forecast model for the March 31, 2006 budget because one of the inputs in the model, spot oil price, had moved beyond the historic range of the model. For the March 31, 2006 budget, Energy chose an oil price that was close to the average of other forecasters. For the March 31, 2007 budget, Energy revised its model and assumptions. The new model is driven by more analysis to forecast supply and demand including world oil demand as a direct input, while the old model used mainly assumptions and storage amount in the United States as a proxy for the demand-supply balance.

Natural gas price forecast model—the following major drivers:

- North American market prices and differentials between these prices,
- exchange rate between US and Canadian Dollars,

- the forecasted oil price from the oil price model, and
- supply-demand reflected in natural gas storage levels.

Systems for preparing forecasts

Energy has procedures for preparing the revenue budgets and forecasts of energy prices produced by its various models. It has processes in place to compile the budgets accurately and consistently with the key assumptions. Inputs from the price and production model are used in the calculation model to determine the budgeted revenue forecast. Energy also prepares a range of outcomes for the forecast.

Energy's Executive Committee reviews and challenges the budget and forecasts for reasonableness. Energy also gives Finance a presentation of the revenue forecast and the assumptions made. Finance and Treasury Board review the revenue forecasts.

Review of results

Energy updates the data in the forecasting models as actual data becomes available and follows up differences between the actual and budgeted revenue. It analyzes differences between price, volume, royalty programs, and other factors. This process checks the accuracy of the forecast, the completeness and accuracy of inputs, and the consistency of the forecast with stated assumptions. Quarterly, Energy gives Finance an updated forecast report explaining changes to revenue, price and production forecasts from previous budgets and fiscal updates, including a comparison between Energy's forecasted oil and natural gas prices to those of other forecasters.

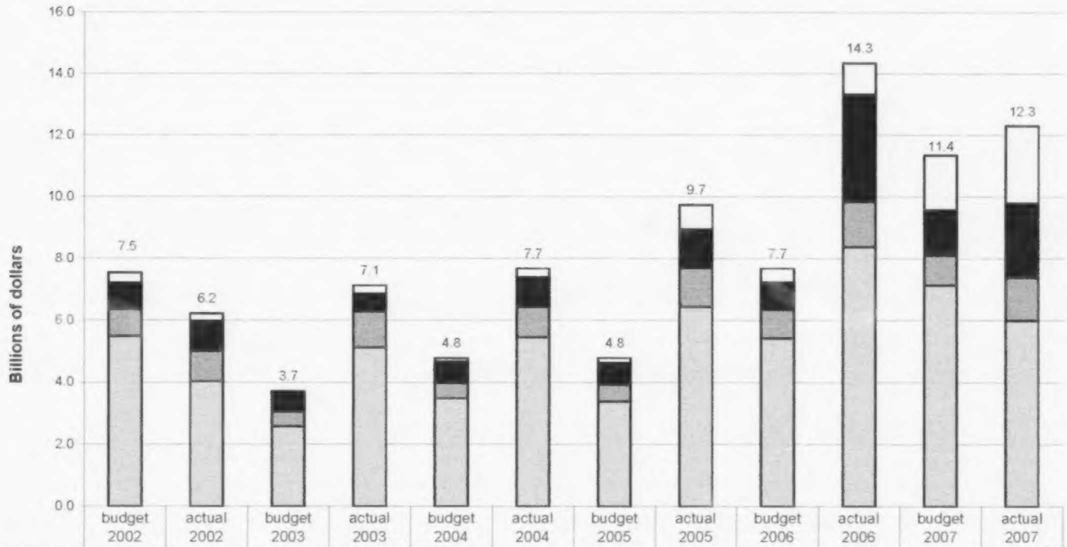
Disclosure

Budget documents disclose the total budgeted non-renewable resource revenue, key assumptions, sensitivity analysis on the price assumptions, and the range of possible outcomes using price projections from various independent private forecasters. Quarterly updates disclose Energy's updated forecast, key assumptions and explain changes from the previous quarterly updates.

1.2 Comparison of budgeted revenue forecasts and actual results 2002–2007

Except for 2002, when actual revenue was $1.3 billion (17%) less than budget, actual revenue exceeded the budget from 2003 to 2007, on average, by $3.7 billion per year, or 70%. The cause of the difference between forecast and actual revenue is primarily the price assumptions in the model. Production forecasts have been accurate within an average of approximately $200 million from 2002 to 2006. Energy's price forecasts have been significantly lower than actual prices.

Non-renewable resource revenue (for years ending March 31)



	budget 2002	actual 2002	budget 2003	actual 2003	budget 2004	actual 2004	budget 2005	actual 2005	budget 2006	actual 2006	budget 2007	actual 2007
total	7.5	6.2	3.7	7.1	4.8	7.7	4.8	9.7	7.7	14.3	11.4	12.3
☐ other	0.3	0.2	0.1	0.3	0.1	0.3	0.2	0.8	0.5	1.0	1.8	2.5
■ land sales	0.8	1.0	0.6	0.6	0.7	1.0	0.7	1.3	0.9	3.5	1.5	2.4
▨ oil	0.9	1.0	0.5	1.2	0.5	1.0	0.6	1.3	0.9	1.5	1.0	1.4
☐ gas	5.5	4.0	2.6	5.1	3.5	5.5	3.4	6.4	5.4	8.4	7.1	6.0

Energy's oil and natural gas price forecasts fell generally between the low and the average price forecasts of other forecasters in the budget (see table below). Energy's price assumptions are based on its view of the sustainable long-term price, resulting in a prudent price forecast, closer to the lower end of the range of other forecasters. Energy's assumptions do not factor in short-term issues, such as war and other risk premiums, as it believed that economic forces will act in the long term to bring the market back in line.

Price forecast benchmarks

Calendar years[1]	2001	2002	2003	2004	2005	2006	2007
Gas price	**Cdn$ per mcf[2]**	**Cdn$ per mcf**	**Cdn$ per mcf**	**Cdn$ per mcf**	**Cdn$ per GJ**	**US$ per MMBTU**	**US$ per MMBTU**
Energy	6.22	2.79	4.68	4.46	5.91	8.58	6.98
High	7.90	3.95	6.30	6.05	7.27	10.50	7.92
Low	5.00	2.65	5.25	4.20	5.22	6.71	5.87
Average	6.00	3.27	5.83	5.44	6.04	8.33	7.12
Actual	5.40	3.88	6.12	5.98[3]	8.63[4]	6.98	-
Oil price	**US$ per barrel**	**US$ per barrel**	**US$ per barrel**	**US$ per barrel**	**US$ per barrel**	**US$ per barrel**	**US$ per barrel**
Energy	26.66	20.00	26.00	27.86	45.16	54.27	58.28
High	27.70	25.80	30.18	31.00	52.25	69.50	66.00
Low	23.00	18.00	26.00	26.00	39.00	50.25	55.31
Average	25.55	20.60	27.94	28.27	45.39	61.02	60.47
Actual	25.93	27.20	31.04	41.40	56.77	66.37	-

Actual prices have been generally closer to the highest price forecast. Actual oil prices were even higher than the highest price forecast for four years and actual natural gas prices were higher than the highest price forecast for two years and very close in the other years, except 2006. Actual prices have been higher mainly due to supply factors which are virtually impossible to predict and beyond the control of forecasters. Supply is affected by weather, natural disasters, political disruptions, strikes and technological breakthroughs.

The average forecast prices were also far less than actual prices, showing that other forecasters have not fared much better. However, the average forecast price was closer to actual prices than was Energy's forecast in the budget documents. Revenue using the average price of other forecasters has been, on average over the last five years, $928 million higher than the revenue using the budgeted price.

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[1] Information obtained from Fiscal Plans in Budgets 2001–2007

[2] Thousand cubic feet

[3] Cdn $/GJ (gigajoule)

[4] US $/MMBTU (million British thermal units)

2. Investment income

2.1 Overview of forecasting systems

Methodology and assumptions

Finance uses spreadsheets to model the actual investment transactions that produce investment income. The model uses the actual asset mix as the basis for the budget. Other key assumptions used are the asset cost, unrealized investment gains and expected rates of return. The expected rates of return are based on 5-year market indices from external forecasters. Forecasted investment income is based on asset cost multiplied by the expected returns, adjusted for anticipated gains or losses from expected investment sales.

Systems for preparing forecasts

Finance has systems to ensure that investment income budgets and forecasts are prepared consistently with the stated assumptions and methodology. The data used in the model is based on the most recent information available.

Prior to the budget for March 31, 2008, Finance also incorporated short-term loss assumptions into the model for determining the forecast. The use of these assumptions lowered the expected rate of return used in the budget and quarterly forecasts. Finance assumed that the investment income forecast should not exceed the income that would be earned if the investments earned investment income at rates that correspond to long- term historical rates. This practice has been discontinued.

The forecasts are reviewed and approved by the Chief Investment Officer and the Deputy Minister of Finance. Treasury Board also reviews the forecasts.

Review of actual results

Finance prepares the quarterly investment income forecasts with the same model that is used to produce budgeted investment income. The primary difference between the budgeted forecast and quarterly updates is the incorporation of actual investment income earned to date into the forecast.

The assumptions for asset balances and asset mix are updated if there have been significant changes from the budget. As with the budget, the 5-year historical rates of return for each asset class are incorporated into the expected rate of return taking the expected investment sales into consideration.

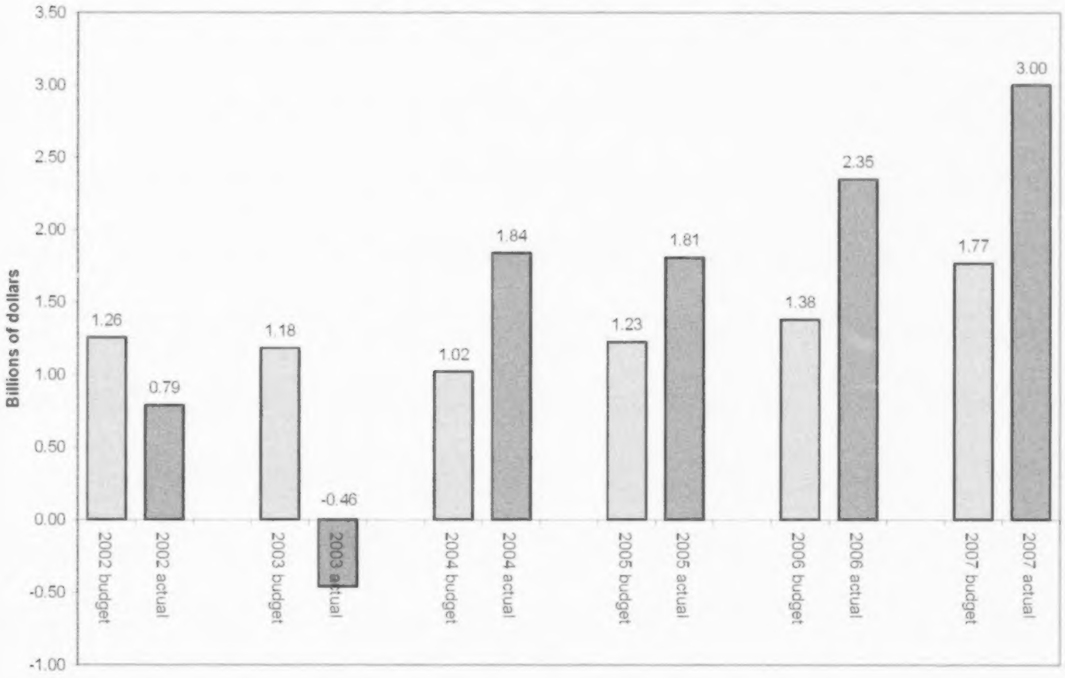
Disclosure

The budget documents disclose the total investment income, high-level overview of the types of investments, and expected returns incorporated in the budget. Finance also discloses the expected returns and asset mix assumptions for the various types of investments in the Heritage Fund. The sensitivities table in the budget discloses the impact of changes in both interest rates and exchange rates on government revenues.

2.2 Comparison of budgeted revenue forecasts and actual results 2002–2007

The graph below indicates that actual investment income has varied from ($.5) billion below budget in 2002 to $1.23 billion above budget in 2007. On average for the four year period of 2004–2007, the actual results have been approximately 67% above budget. The main reason why the actual results have been so different from the budget is that it is impossible to predict how the stock and bond markets will react in the short-term. Therefore, Finance has used long-term (5 year) historical market rates of return to forecast investment income. Actual short term rates have been significantly higher than predicted. Also, the average 5 year rate of return earned by Finance on the Alberta Heritage Savings Trust Fund exceeds average market rates of return used to prepare the budget.

Investment income (for years ending March 31)



3. Personal income tax revenue

3.1 Overview of forecasting systems

Methodology and assumptions

Finance uses a model to determine personal income tax revenue. The key assumptions used in the model are:

- personal income growth (based on historical information provided by Statistics Canada and Department of Finance forecasts)
- number of tax filers (based on historical information from Canada Revenue Agency and Department of Finance forecasts)

When Finance determines its forecasts for the above assumptions, it uses the most up-to-date historical information available from Statistics Canada and Canada Revenue Agency. Finance also considers other economic projections prepared by other organizations such as banks, the Conference Board of Canada and private forecasting agencies.

Systems for preparing forecasts

Finance has procedures to ensure the accuracy and completeness of the information entered in the model for personal income tax. The information entered into the model is subject to various levels of review, access to the model is restricted, and the model is updated regularly as new information becomes available. Finance also regularly tests the predictive power of the model using the actual data and assumptions.

The personal income tax revenue, in both the budget and quarterly updates, are reviewed and approved by senior management in Finance. Treasury Board also reviews the forecasts.

Review of actual results

Each quarter Finance updates the forecast of personal income tax revenue as new information becomes available. The new information can be revised historical information from Statistics Canada or Canada Revenue Agency, or revised economic projections on personal income growth or number of tax filers. In the quarterly updates, Finance adjusts its original forecast if the new information is significantly different from that used in the original budget.

The actual personal income tax revenue that Finance records in its annual financial statements is estimated for the fiscal year using the same model, updated with the latest tax assessment data available, the most up-to-date economic projections, and adjusted by any previous years' differences between estimates and actual. For 2006-2007, for example, Finance used 2005 final tax data, preliminary 2006 income data and forecasts for 2007 income and 2006 and 2007 tax filers to estimate the year-end revenue for accounting purposes.

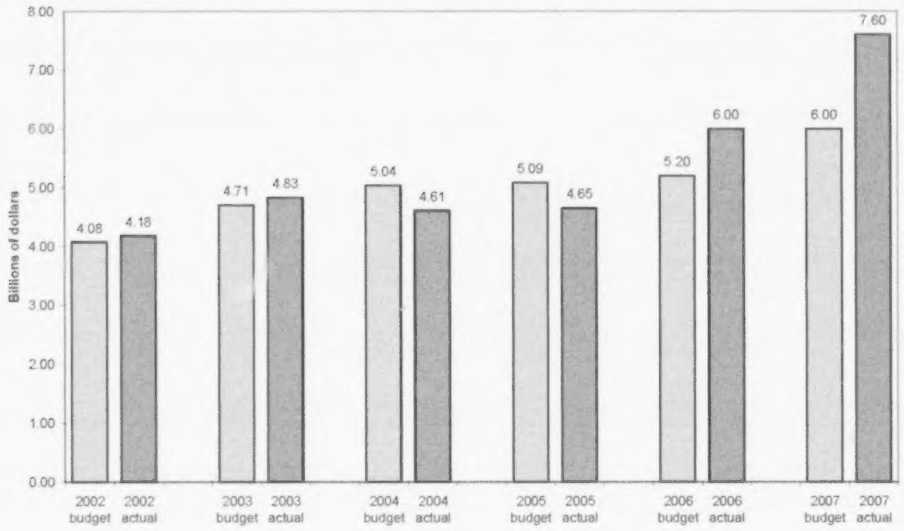
Disclosure

The budget documents disclose the total forecast of personal income tax revenue. Starting with the budget for the year end March 31, 2008, Finance discloses the overall impact of changes in personal income on the forecast for revenue. It discloses that for every $100 million that actual personal income differs from the forecast, revenues will differ by $6 million.

3.2 Comparison of budgeted revenue forecasts and actual results 2002–2007

The graph below shows actual personal income tax has varied from the budget between $100 million in fiscal 2002 and $1.6 billion in fiscal 2007. The average variance from 2002–2007 between actual and forecast is 11%, with the most significant variances in 2006 (16%) and 2007 (27%). The reason for this difference is because one of the main factors in developing the forecast, annual growth in personal income, has been significantly higher than initially forecast for those years.

There are two factors that lead to the variance. First, historical personal income data from completed tax assessments has been higher than forecast. Second, a significant component of the variance arises because of adjustments to the previous year's revenue recorded in the annual statements. For example, $331 million of the variance for fiscal 2006, and $662 million of variance for 2007 arose because of the adjustments to prior years' revenues. These adjustments were because of new tax assessment data from the federal government, and revisions to personal income growth estimates. These adjustments impact both the current year's forecast and the prior year's estimates and the total impact on the revenue forecast is recorded in the current year.


Personal Income Tax Revenue (years ending March 31)

4. Corporate income tax revenue

4.1 Overview of forecasting systems

Methodology and assumptions

Finance considers corporate operating surplus to be a predictor of corporate taxable income. Finance uses a model to determine corporate operating surplus primarily based on estimates of labour income and Gross Domestic Product (GDP). This information is based on Finance forecasts and historical information provided by Statistics Canada.

To determine corporate taxable income, Finance applies the ratio of previous years' corporate taxable income to operating surplus to the current year's operating surplus. This ratio is thought to take into account all other factors, such as, capital cost allowances, loss carry forward pools, exploration and development expenses, that may affect corporate taxable income.

Finance then applies the applicable tax rates to its estimate of corporate taxable income to arrive at its corporate income tax revenue budget. The corporate taxable income estimate is multiplied by the statutory corporate tax rate, as adjusted for features such as the small business deduction, to arrive at the final budget for corporate income tax revenue.

Finance assesses the reasonableness of its estimate for GDP and labour income by benchmarking its forecasts against the projections published by other organization such as major banks, the Conference Board of Canada and private forecasting agencies.

Systems to prepare forecasts

Finance has controls to ensure that the calculation of corporate income tax revenue is consistent with the methodology and the key assumptions are based on the most current information available for GDP and labour income.

The corporate income tax budgets and forecasts are reviewed and approved by senior management in Finance. Treasury Board also reviews the forecasts.

Review of actual results

During the year, Finance monitors cash collections to assess whether the original estimate of corporate taxable income remains reasonable. If its estimate of corporate taxable income differs significantly from cash collections, Finance revises its forecast of corporate income tax revenue in the quarterly updates.

Year-end estimate of revenue

The actual corporate income tax revenue in the annual financial statements is based on the gross cash collections for the year, and an estimate of refunds that will be paid relating to the cash collected in the fiscal year. The majority of large corporations have December 31 year ends, which means they have to file their tax returns by June 30 of the following year. The Department and CRA assess the bulk of these returns in July and August. The Department has to estimate the amount of refunds resulting from filed returns in May of each year, in time to finalize the province's consolidated financial statements, but before it does the majority of the assessments.

Finance uses a simple method to estimate the refunds it will pay—it calculates the refunds to receipts ratio (corporate income tax refunds divided by corporate income tax receipts) for the past five years, and uses the average of these ratios to estimate what the refund ratio will be for the next year. The Department adopted this method of estimating corporate income tax refunds in fiscal 2005. It was based on the model the federal government used at the time.

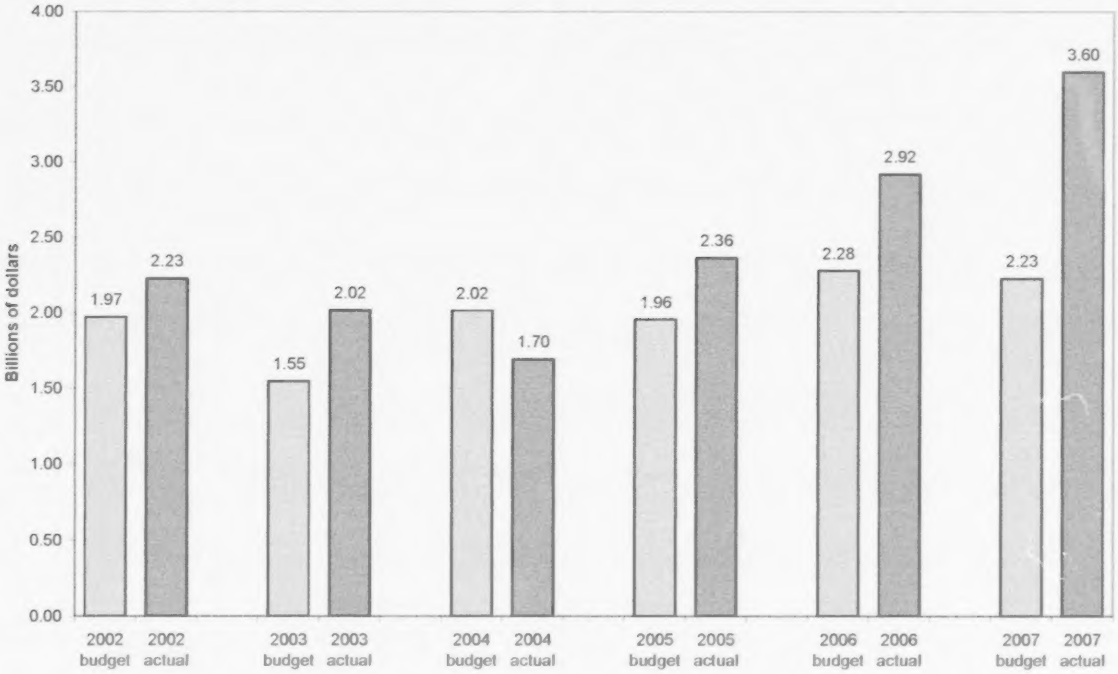
Disclosure

The budget documents disclose the total forecast of corporate income tax revenue. Starting with the budget for the year ending March 31, 2008, Finance discloses the overall impact of changes in corporate taxable income on the forecast for revenue. It discloses that for every $100 million that corporate profits differ from the forecast, revenues will differ by $8 million.

4.2 Comparison of budgeted revenue forecasts and actual results 2002–2007

The graph below shows, actual corporate income tax revenue has varied from the budget as follows: $260 million in 2002, $640 million in 2006 and $1.4 billion in 2007. The average variance between forecasts and actual results for the years 2002–2007 is 28%. This variance is because the Department's budget has not been consistent with actual cash collections. The model produced stable results in years (2002 to 2005) when economic growth and growth in cash collections for corporate income tax was stable. In 2006 and 2007, Finance experienced tremendous growth in cash collections and as a result the difference between budget and actual results was about $1.4 billion in 2007.

Corporate Income Tax Revenue (years ending March 31)



5. Transfers from the Government of Canada

5.1 Overview of forecasting systems

Methodology and assumptions

Every year, the federal government estimates the total entitlement of each province under the CHT and CST programs. For CHT and up to fiscal 2008 for CST, this estimate has two components:

- the national cash transfer—this amount is set by federal legislation.
- the national tax point transfer—this transfer is based on 1% of corporate taxable income and 14.9 % of basic federal tax (paid by Alberta residents) collected in each province and territory.

The total entitlement for each province and territory is equal to its per capita share of the national entitlement. Provinces with higher-than-average per capita personal and corporate income tax revenues receive a lower cash transfer than provinces with lower-per-capita personal and income tax revenues. Starting in 2007-2008, the federal government will allocate CST on an equal per-capita cash basis; it will no longer be affected by changes in the national or provincial tax transfers.

Finance uses a model to develop the CHT and CST budget. It adjusts the federal estimate using its own assumption for population growth and the estimate of the province's personal and corporate income tax revenues.

The amount of the actual tax transfer for CHT (and formerly the CST) is affected by changes to corporate taxable income and Alberta residents' basic federal tax, and also to changes in economic conditions in other provinces. For example, if Alberta's economic performance is better than originally forecast, the province's taxable income and basic federal tax will be higher, resulting in lower CHT (and formerly CST) entitlements than forecast.

When tax transfer revenue estimates are revised, the resulting adjustment is either added to or subtracted from the current year revenue. The tax transfer data is final when Canada Revenue Agency finishes assessing the relevant taxation year. This usually takes two years; at this time the amount of revenue recorded in the province's annual financial statements is adjusted to equal the actual federal tax transfer for that year. Final assessment data for the 2006–2007 fiscal year will be available in January 2009.

Systems for preparing forecasts

Finance has systems for preparing the budgets for CHT and CST that ensure the amounts are calculated consistent with the methodology and assumptions. The accuracy of the budget depends mainly on the accuracy of the personal and corporate income tax assumptions; if these assumptions vary significantly from actual results the forecasted CHT and CST revenues will be affected.

The budgets and quarterly forecasts are reviewed and approved by senior management within Finance. The purpose of this review to ensure that the budgets and forecasts are consistent with the assumptions and information provided by the federal government. Treasury Board also reviews the forecasts.

Review of actual results

Finance reviews the monthly personal and corporate income tax assessment information received and updates its assumptions and CHT and CST forecasts. The quarterly updates reflect this new information and include revised forecasts. At year end, Finance also has to estimate the portion of the transfers earned but not yet received based on the most recent personal and corporate income tax data.

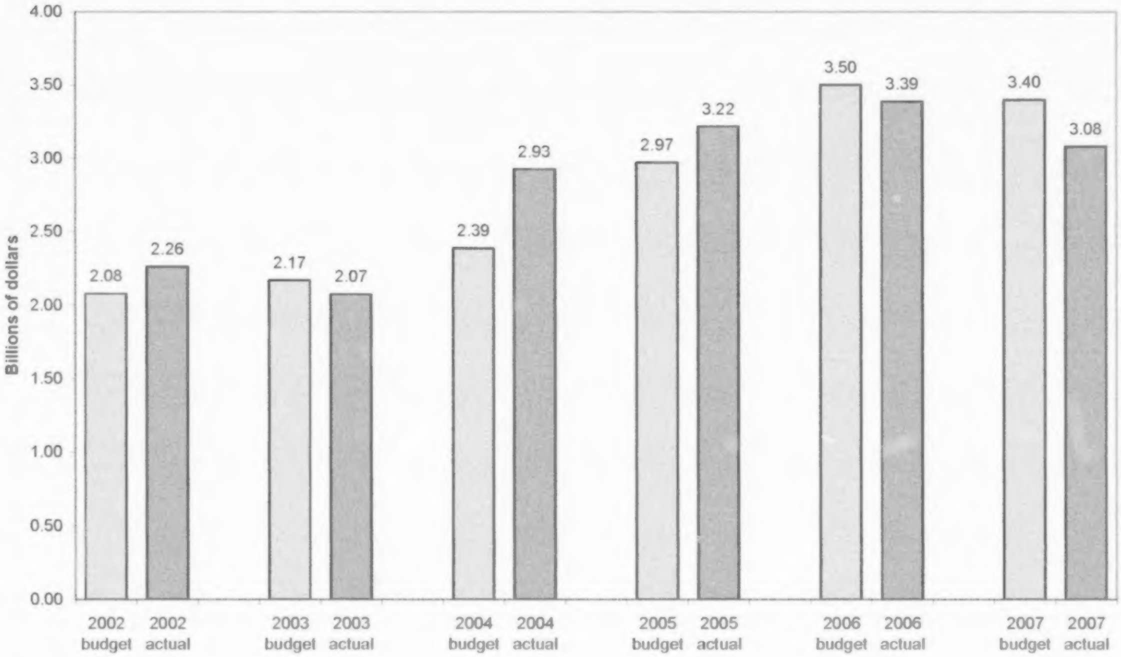
Disclosure

The budget documents and the quarterly updates include information for readers to understand the revenue forecast for transfers from the federal government. The total revenues for each significant type of transfer (CHT, CST, agricultural programs and others) are disclosed. The 2008 budget (Budget 2007) documents disclose the sensitivity of revenues to personal income and corporate profits. These sensitivities include the impact of changes in these income levels on transfer revenues.

5.2 Comparison of budgeted revenue forecasts and actual results 2002–2007

The graph below shows that actual transfers from the Government of Canada have been fairly consistent with the forecasts. On average, budgets have been within 10% of the actual revenues for the last 6 years (2002–2007). The most significant differences between budget and actual revenue in those years have resulted from CHT and CST. In 2004, the federal government increased CHT transfers after the Alberta Government released the budget for the year ended 2004. In 2006 and 2007, actual CHT and CST revenues were lower than budget because of unanticipated increased revenues for personal and corporate income taxes.

Transfer from Government of Canada (for years ending March 31)



6. Gaming and liquor revenue

6.1 Overview of forecasting systems

Methodology and assumptions

Gaming revenue—the Commission uses a model to budget and forecast gaming revenue. The processes to estimate gaming revenue from both types of gaming machines (slot machines and video lottery terminals) are similar. The main assumptions used for forecasting are:

- expected average number of gaming machines for the fiscal year.
- average revenue rate per machine per hour.
- hours of operation.

These assumptions are based on the most recent actual results of revenue per gaming machine and hours of operation. The Commission controls the number of gaming machines and the hours of operation do not fluctuate significantly. The Commission adjusts the average revenue rates based on the potential impact of major changes, for example, the effect on existing casinos of a new casino in the same market or the impact of municipal smoking bylaws.

Liquor revenue—the Commission bases its liquor revenues budgets on the estimated volume of spirits, wine, cooler and beer sales in Alberta and the mark-up amounts. The Commission forecasts the volume of liquor sales based on the last five years of sales on a monthly basis for different liquor products. It adjusts the estimated volumes for changes in consumer preferences, population growth, Alberta Gross Domestic Product, and major events where liquor is consumed. The Commission establishes the flat mark-up amounts, based on the type of liquor and alcohol percentage.

Systems for preparing forecasts

The Commission has processes for preparing budgets and forecasts for gaming and liquor revenues to ensure that the amounts are calculated consistent with the methodology and based on the most recent data available. Executive management reviews the reasonableness of the forecasts and the assumptions. The Commission's Board reviews and approves the budget and quarterly forecasts. The Department of Finance and Treasury Board also review the forecast and quarterly updates.

Review of actual results

The Commission has processes for reviewing and updating revenue forecasts. Every quarter, the Commission reviews the most recent actual results and other events to assess the changes needed to the forecasting methodology and assumptions. As part of the quarterly update process, the Commission analyses three possible outcomes using a combination of the original budget and the current actual information. The Commission uses the results of this exercise to revise the quarterly forecast in the government's quarterly fiscal update. Actual revenues received are recorded in the annual financial statements.

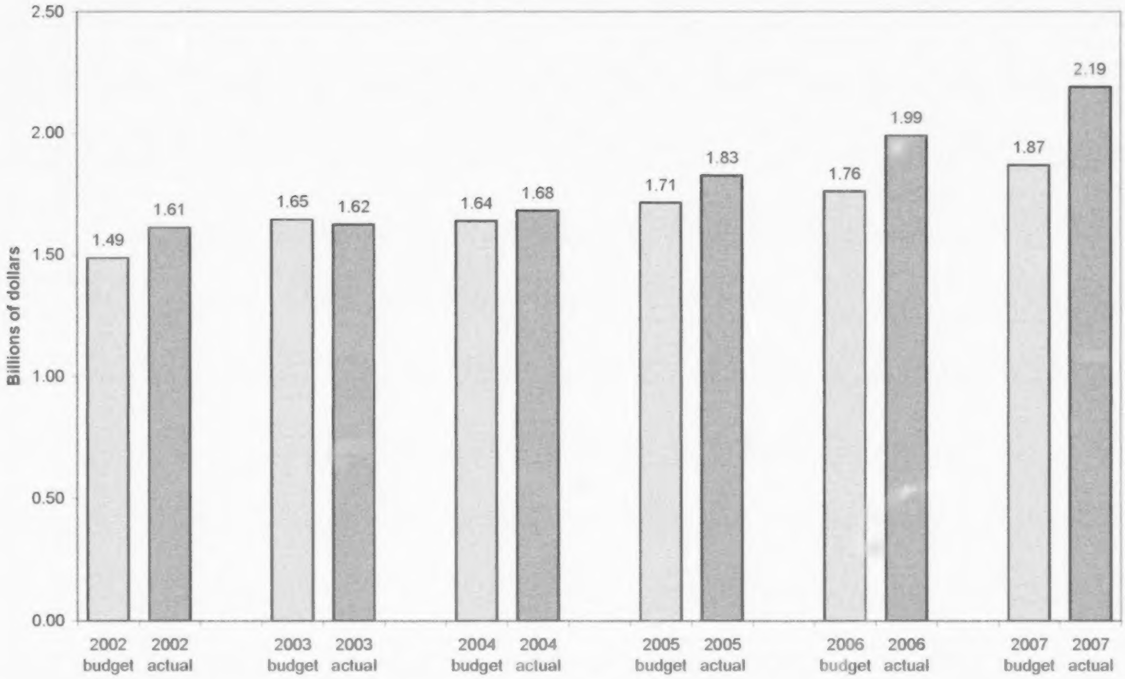
Disclosure

The total revenue forecasts for gaming and liquor revenue are disclosed in both the budget and quarterly updates. There is no disclosure on the significant assumptions and sensitivity analyses are not provided because of the low volatility of gaming and liquor revenues.

6.2 Comparison of budgeted revenue forecasts and actual results 2002–2007

The graph below shows that actual results have not varied significantly from budgeted amounts. Actual revenues have exceeded the forecasts for all years except 2003. The average difference between budget and actual revenues for between 2002 and 2007 is 8%. The variation between forecast and actual was larger in 2006 and 2007 primarily because of better than expected average revenues for gaming machines and unanticipated levels of liquor sales in the first quarter of 2007.

Gaming and Liquor Revenue (for years ending March 31)



7. Public reporting of revenue forecasts

7.1 Overview of Finance's systems for compiling and reviewing the budget and quarterly updates

Finance gathers revenue forecast information from ministries, departments, and agencies and compiles it in the budget. Finance reviews revenue forecasts to ensure they are consistent with its expectations, based on market conditions, and to verify that the information is accurately compiled. This review entails comparing revenue forecasts to previous years, ensuring the Department's assumptions for Gross Domestic Product and exchange rate are consistent with those developed centrally by Finance. It also reviews the assumptions used in forecasting revenue in the light of economic conditions and forecasts issued by other organizations and obtains information from the departments' if their assumptions are at odds with Finance's assessment of the economic conditions.

Treasury Board also reviews and challenges the budget and quarterly updates. Treasury Board asks Finance to provide economic condition forecasts issued by other organizations, which it uses to question department officials about their assumptions and revenue estimates.

7.2 Disclosure of revenue forecasts in the budget and quarterly updates

The budget documents disclose the key assumptions that impact the government's significant revenues. This disclosure includes oil and gas prices and production, economic growth, Gross Domestic Product, Heritage Fund return and asset mix and exchange rate.

The budget documents and the quarterly fiscal updates also include a sensitivity analysis to estimate how revenue would respond to changes in significant assumptions. The table below was included in the budget for the year ending March 31, 2008. The sensitivity analysis provides information on the impact of changes in key assumptions on the revenue forecast to changes in market on the revenue forecast. The sensitivity information on personal income and corporate profits was included for the first time in this budget.[5]

Sensitivities to Fiscal Year Assumptions, 2007-08[a]

(millions of dollars)

	Annual Change	Revenue	Spending	Net Change
Oil Price (WTI US$/bbl)	-$1.00	-139	–	-139
Natural Gas Price (Cdn$/GJ)	-10¢	-98	–	-98
Exchange Rate (US¢/Cdn$)	+1¢	-123	–	-123
Interest Rates	+1%	-227	+5	-232
Personal Income ($million)	-100	-6	–	-6
Corporate Profits ($million)	-100	-8	–	-8

[a] Sensitivities are based on current assumptions of prices and rates and show the effect for a full 12 month period. Sensitivities can vary significantly at different price and rate levels. The energy price sensitivities do not include the potential impact of price changes on the revenue from land lease sales. The interest rate sensitivity has two components, an increase in cash interest income and a capital loss. When interest rates rise, bond prices go down, causing a capital loss.

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[5] Government of Alberta Budget 2007 Fiscal Plan

Staring with the budget for the year ending March 31, 2008, the budget documents state that external factors such as global events, changes in economic conditions and weather could significantly impact the government's revenue forecasts. Consequently, the government's total revenue forecast could be up to 10% higher or lower than the budget estimate. A range of possible outcomes for the non-renewable resource revenues is also provided, which states that energy revenue could be between $8 billion and $12.5 billion based on the range of forecasts provided by other organizations.

The budget documents include information on the requirement under the Fiscal Responsibility Act for the transfer of non-renewable resource revenue in excess of $4.75 billion to be transferred to the Alberta Sustainability Fund and permissible use of the fund. The budget also outlines the new surplus allocation policy which outlines what additional in-year surplus arising from higher than forecasted revenues, will be used for.

Cross-Ministry

Summary: what we found in our audits

The Department of Treasury Board can further improve controls over the use of government credit cards—see page 172.

Overview

Systems that affect all or several ministries

This section of our annual report is unique because it focuses on the results of our examination of government systems and programs that affect the whole government or several ministries.

Central agencies develop policies that ministries implement

A number of ministries, such as Executive Council and Treasury Board, are central agencies with broad government responsibilities. These central agencies develop corporate policies, strategies and guidance for ministries to operate within. Other ministries, such as Municipal Affairs and Housing, and Service Alberta, have responsibilities for programs that have a cross-ministry impact. Examples of these programs are disaster planning and information systems.

Ministries work together

The government encourages ministries to work together to solve common problems. This is evidenced by cross-ministry policy and administrative initiatives identified in the government business planning process. Ministries also work together on other matters that require several ministries to achieve results.

Scope: what we did in our audits

We examined the use of government credit cards and the systems that Department of Treasury Board and all departments have to ensure that their use complies with directives and policies.

Our audit findings and recommendations

1. Government Credit Cards

1.1 Summary

Allegations of misuse

In November 2006, local media alleged that in 2004, Sasha Angus, executive assistant to (then) Minister of Economic Development Mark Norris, had used his government credit card for personal purchases, including a trip to Las Vegas.[1] Based on our follow-up of this matter we decided that we would audit the use of government credit cards.

We looked at credit card use across government

We examined the use of government credit cards by ministers, deputy ministers and executive assistants at 17 departments and the former Department of Economic Development. Our objective was to determine if the Department of Treasury Board, as the department responsible for setting the government's credit card directive and policies, and other departments have systems in place to ensure credit card transactions comply with directives and policies.

Use complied with policies at 17 departments

Overall, the Department of Treasury Board and Departments have systems in place to ensure credit card transactions comply with the Directive and related policies and they are operating effectively. The use of government credit cards complied with directives and policies, other than at the former Department of Economic Development. There is guidance on the appropriate use of government credit cards, supporting information is provided to verify transactions, incidental personal expenses charged are recovered from cardholders and departments monitor credit card use.

Non-compliance found at Economic Development

At the former Department of Economic Development, the use of government credit cards did not comply with the directive and policies. A significant number of credit card transactions for both the Minister and Mr. Angus did not have any supporting documentation and others were not adequately supported. These cardholders used the credit cards for personal purposes. The Minister repaid the government monthly for personal expenses on his card. Mr. Angus charged approximately $30,000 in personal expenses to his government credit card and it took almost six months before he reimbursed the government. Even though Mr. Angus was not complying with policies, he was able to continue to use his government credit card and no one cancelled the card.

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[1] Both the Minister and the Executive Assistant left government in late 2004

Opportunities to further improve practices

The practices at Economic Development were not found in our testing at other departments. However, our audit did identify opportunities to further improve the current practices. The Department of Treasury Board should work with other Departments to clarify the information required to support transactions and give guidance to senior financial officers on how to deal with significant non-compliance issues. Cardholders should also be informed of their responsibilities for the appropriate use of the card.

1.2 Objectives and scope

Our objective was to determine if the Department of Treasury Board and other Departments have systems in place to ensure credit card transactions comply with directives and policies.

The scope of this audit was to examine purchases made on all government credit cards between January 1, 2003 and December 31, 2006. The following table shows the number of cardholders, the number of credit card transactions made each calendar year and the total value of the transactions:

Year	# of Cardholders	# of Transactions	Total
2003	103	7,858	$ 823,863
2004	120	9,955	1,045,883
2005	122	11,990	1,547,880
2006	116	12,038	1,673,157
Totals		41,841	$ 5,090,783

Followed up 1,300 transactions made by 81 card holders

We focused on the risk of personal purchases on government credit cards. We examined the credit card use in the former Department of Economic Development (3 cardholders). We also identified 81 cardholders in 17 Departments who made approximately 1,300 purchases at vendors not typically associated with government business. We followed up on these transactions to see if they were for valid government purposes or if cardholders had identified them to the accounting office as personal expenses and repaid them. There were two departments that we did not examine because there were no transactions that were identified during our risk assessment.

We met with the Senior Financial Officers (SFOs) of the 17 Departments and gave each SFO a list of transactions for which we needed further information. We then held a follow-up meeting with the SFO or a senior staff member of the accounting office for each Department and reviewed the information they gave to us. Our purpose was to learn if there were personal purchases on the government credit cards, if the personal purchases were reimbursed, and if the processes to monitor credit card purchases are sufficient.

We focused our audit only on credit card transactions. Departments also issue procurement cards and make expense account reimbursements to senior officials, management, and staff for government expenses. We did not examine procurement card transactions or personal expense accounts of senior personnel because we already examine them regularly.

1.3 Recommendation No. 17

We recommend that the Department of Treasury Board, working with all other Departments, further improve controls for the use of government credit cards by:

1. **communicating responsibilities to all cardholders.**
2. **clarifying the support required to confirm both the nature and purpose of transactions.**
3. **providing guidance to senior financial officers and accounting staff on dealing with significant non-compliance.**

Background

116 cards; $1.7 million in spending

The Alberta government issues credit cards to those that request one to Ministers, Chairs of Cabinet Policy Committees, Senior Officials, and Executive Assistants to Ministers. Appropriate use of credit cards reduces administrative burdens by reducing the need for purchase orders, invoices, cheques, and electronic funds transfers for business purchases. In the calendar year 2006, the government had issued 116 credit cards to cardholders; the total spending on these cards for the year was approximately $1.7 million.

Treasury Board Directive

Under Treasury Board's Credit Card Policy Directive (the Directive), credit cards are intended to let cardholders pay reasonable expenses necessary for government business. The Directive requires cardholders to submit original supporting documentation for purchases charged.[2] In May 2007, the Directive was updated to prohibit the use of credit cards for personal purchases by cardholders unless they are incidental to government business.

Controls at departments

Each Department has controls in place for managing the use of their credit cards although the processes vary in terms of who paid statements, when they paid them, and how they coded the account. Typically, the credit card issuer sends monthly credit card statements to the cardholders' Department accounting office for payment. The accounting office then forwards the statements to cardholders to review and provide supporting documents. Cardholders return the statements, with supporting documents, to the accounting office. The Department pays the credit card issuer the account balance. In order to avoid finance charges, the balance is typically paid prior to the supporting documents arriving at the accounting office.

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[2] *Financial Administration Act*, Treasury Board Directive No. 14/98

Personal expenses must be repaid

When reviewing the credit card statement and supporting documents, cardholders are expected to identify and repay any personal expenses. There is no easy way for the accounting office to distinguish a personal transaction from a government transaction. The accounting office relies on self-disclosure by cardholders and a reasonableness assessment of transactions.

Allegations regarding use of cards at Economic Development

In November 2006, local media alleged that in 2004, Sasha Angus, executive assistant to (then) Minister of Economic Development, Mark Norris, had used his government credit card for personal purchases, including a trip to Las Vegas.[3] The Department had not informed us about this matter. We made inquiries with the Department following this media report. The Department reported that:

- during 2003 and 2004, it had only three credit cards in use—one with each of the Minister, the Minister's executive assistant and the Deputy Minister.
- personal expenses on the executive assistant's government credit card from April 2004 to November 2004 totaled approximately $37,000.
- the executive assistant repaid these personal expenses by November 2004.
- it did not inform us of this situation because Treasury Board Directive 14/98 did not explicitly prohibit personal purchases on a government credit card, and its systems had identified and resolved the issue.

Based on our follow-up of this matter we decided that we would audit the credit card transactions at the former Ministry of Economic Development and other government ministries.

Since our audit started, there have been three developments on government credit cards:

Recent developments

- In April 2007, the President of Treasury Board issued a memo stating the credit card is not for personal use and instructing all cardholders to provide detailed receipts with their credit card statements.

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[3] Both the Minister and the Executive Assistant left government in late 2004

- On May 16, 2007, Treasury Board updated the Directive (it rescinded Treasury Board Directive 14/98 and replaced it with Treasury Board Directive 03/2007). The new Directive prohibits personal expenses unless incidental to government business.
- In April 2007, the government changed its credit card provider, which is now also its procurement card provider. With this new card, outstanding balances are automatically paid seven days after the billing date. Transactions need to be verified by the cardholder and approved within 28 days of the billing date. This new payment process will eliminate finance charges for overdue accounts.

Criteria: the standards we used for our audit

a) The Department of Treasury Board and departments should have clearly documented directives, policies and processes for the use of credit cards and communicate them to management and staff.

b) Credit card purchases should be only for government purposes in accordance with the Treasury Board Credit Card Policy Directive, and if applicable, the Alberta Public Service Subsistence, Travel and Moving Expense Regulation. Records should contain sufficient original supporting documentation to show the transaction complied with the Directive and policies.

c) All Departments should have processes to recover from cardholders payments of ineligible transactions.

d) All Departments should have adequate controls to ensure credit card use complies with directives, policies and processes.

Our audit findings

Systems are in place and operating effectively

Overall, the Department of Treasury Board and Departments have systems in place to ensure credit card transactions comply with the Directive and related policies and they are operating effectively. Our audit identified non-compliance, particularly in the former Department of Economic Development. Systems at the other 17 departments we examined were generally better but could be improved. There are some opportunities to enhance the existing systems by providing clarification on the information required to support transactions and processes to deal with non-compliance. Cardholders should also be informed of their responsibilities for the appropriate use of the card.

Our detailed audit findings for each criterion are reported under the subheadings of Cross-Ministry (for 17 departments) and Economic Development.

a) Documenting and communicating policies, processes and directives

Cross-Ministry

Guidance exists but further clarification required regarding supporting documentation

This criterion was partly met. The new Directive provides guidance to credit card users on the appropriate use of government credit cards and now prohibits personal purchases unless incidental to government business. The Directive requires cardholders to provide original supporting documentation for credit card transactions, however, clarification on the nature and extent of this information is required. We found variation in the extent of original supporting documentation provided by the cardholder to the accounting office. In some cases, cardholders provided detailed receipts[4]; others only provided credit card slips[5]. In a few cases, no supporting documentation was provided. The memo that the President of Treasury Board sent to cardholders requires that detailed receipts be provided but it is not part of the new Directive nor has it been incorporated into current policies to support the Directive.

Department controls exist

Each Department has controls in place for managing the use of their credit cards although the processes vary. Accounting staff generally have a good understanding of the Directive, policies and procedures for the use of government credit cards.

Not all card holders receive training

In our examination of the Department processes, we also identified the following:

- Only 3 of the 17 Departments briefed new cardholders on policies and processes.
- Several cardholders delayed returning credit card statements with supporting documentation to accounting offices. The delays resulted in finance charges and additional work by accounting staff. In 2005, government credit cards incurred interest charges totaling $8,061.75; in 2006 interest charges totaled $2,492.30. This issue will be rectified with the new card payment process.

Economic Development

Department processes existed

This criterion was partly met. Accounting staff had a good understanding of the Directive, policies, and processes for credit card use. However, the cardholders' understanding of these requirements was deficient. For example:

Training required

- Mr. Angus told us he never received any training on using government credit cards.

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[4] Itemized list of purchases, the vendor, the date, the amount and the cardholder's signature.

[5] Identifying the vendor, the date, the amount and the cardholder's signature.

- the approval process for paying Mr. Angus' card included a review and approval by the Minister. Mr. Norris told us that when he received credit card statements and supporting receipts for review and approval, he often approved them without a thorough review.

b) Credit card purchases only for government costs and supported by receipts

Cross-Ministry

Supporting documentation could be improved

This criterion was partly met. At all Departments, cardholders provided supporting documentation of their purchases, but often the only receipt supplied was the credit card slip. Departments often experienced challenges getting information in a timely manner. There was no information on the business purpose, attendees, or what was actually bought.

Of the 1,300 transactions we examined, 383 transactions totaling $36,346.34 were identified as gifts (typically under $100 and were for items such as books or small artifacts). Receipts were provided for a majority of these gifts, but there was little or no indication who received the gift or why.

Economic Development

Transactions not supported by adequate documentation

This criterion was not met. A significant number of government credit card transactions, $57,791.80 of the $141,480.71, did not have supporting documentation. For transactions with supporting documentation, often only the credit card transaction slip was submitted. There was no information on the business purpose, attendees, or what was actually bought.

The credit card transactions for both Mr. Norris and Mr. Angus between April 2003 and November 2004 are summarized on the following tables:

Table 2–Mark Norris' card

Fiscal year	Self-disclosed personal expenses	Government transactions with supporting documentation	Government transactions without supporting documentation	Total government transactions	Total transactions
2002/03	$300.00	$1,681.10 (59%)	$1,170.58 (41%)	$2,851.68 (100%)	$3,151.68
2003/04	$4,071.61	$16,320.19 (74%)	$5,878.66 (26%)	$22,198.85 (100%)	$26,270.46
2004/05	$5,095.31	$7,780.73 (69%)	$3,478.05 (31%)	$11,258.78 (100%)	$16,354.09
Total	**$9,466.92**	**$25,782.02**	**$10,527.29**	**$36,309.31**	**$45,776.23**

Table 3–Sasha Angus' card

Fiscal year	Self-disclosed personal expenses	Government transactions with supporting documentation	Government transactions without supporting documentation	Total government transactions	Total transactions
2002/03	$0.00	$4,776.66 (74%)	$1,682.98 (26%)	$6,459.64 (100%)	$6,459.64
2003/04	$3,182.03	$37,631.37 (57%)	$28,226.52 (43%)	$65,857.89 (100%)	$69,039.92
2004/05	$35,109.54	$15,498.86 (47%)	$17,355.01 (53%)	$32,853.87 (100%)	$67,963.41
Total	**$38,291.57**	**$57,906.89**	**$47,264.51**	**$105,171.40**	**$143,462.97**

Receipts requested but not received

Economic Development's accounting office requested the supporting documentation from the Minister's Office on numerous occasions, but never got them. Without adequate supporting documentation, it is not possible to verify the purpose of a transaction—the only information available to the accounting office would be the vendor name. That won't always identify the product or service purchased or show if the transaction was for personal or government purposes.

c) Recovering payments of ineligible transactions

Cross-Ministry

Incidental personal expense recovered

This criterion was met. Cardholders repaid all personal expenses they disclosed. Of the 1,300 transactions we examined, 14 transactions, totaling $7,100, were identified as personal. In these cases, cardholders have previously provided cheques to the government to pay back the amounts owing. In a few cases, accounting offices had challenges collecting repayments promptly.

Economic Development

This criterion was partly met. Mr. Angus eventually reimbursed the government for all personal transactions on his government credit card, but took almost six months to do so. Mr. Norris paid his personal expenses monthly, when he reviewed the credit card statements.

Mr. Angus repaid expenses but it took 6 months to do so

In April 2004, Mr. Angus became delinquent in paying off his self-disclosed personal purchases on the government credit card. For the next six months he continued to use the credit card for personal purchases without reimbursing the government. By October 2004, he owed approximately $30,000. At the end of November 2004, Mr. Angus provided a cheque to the department for $29,742.26 to fully repay the personal expenses incurred on his government credit card. We verified that Mr. Angus repaid this amount and that the funds used to pay the department came from personal sources.

d) Adequate controls to ensure compliance

Cross-Ministry

Departments monitor use

This criterion was partly met. Departments monitor the use of credit cards but the effectiveness of the process is affected by the adequacy of the supporting information provided. Also, SFOs and accounting staff are not clear on how to resolve significant issues or concerns regarding credit card use.

All Department accounting offices had controls in place to monitor the use of the government credit cards as outlined by the Treasury Board Directive. As well, controls were in place for the approval of the credit card statement. In some credit card statements we examined, however, we could not tell if cardholders reviewed the statement. The lack of original supporting documentation for credit card purchases makes it hard for the accounting office to verify that these transactions were for government purposes.

Staff not clear on how to deal with significant issues

Accounting staff asked cardholders for additional information and support for credit card transactions if questions arose during their review. If accounting staff couldn't resolve an issue, they would tell the SFO. But some SFOs expressed reluctance to challenge the Minister's Office on significant issues or concerns with credit card transactions. Once a Minister signed a credit card statement, the SFO would typically rely on this approval—even without sufficient documentation.

Economic Development

Several problems with Mr. Angus' card use

This criterion was not met—compliance with policies was poor. Over two years, Mr. Angus continued to hold the credit card even though the following problems were apparent:

- In the 2003/2004 fiscal year, Mr. Angus failed to submit receipts totaling $28,226.52.
- In the 2004/05 fiscal year, Mr. Angus failed to submit receipts totaling $17,355.01.
- The receipts he did submit were delayed.
- He delayed in identifying personal expenditures and in repaying them.
- He owed a steadily increasing amount to the government for personal expenses without making regular repayments.

No one cancelled the card

The increasing outstanding personal expenses concerned senior staff at the accounting office. The SFO told Mr. Angus in late summer of 2004 to repay his personal expenses, but he didn't. On September 2, 2004, the SFO informed the Deputy Minister of the problem. The Deputy Minister informed the Minister. Many individuals discussed how to deal with

Mr. Angus' use of the government credit card, particularly the non payment of his personal expenses. However, no one suspended or cancelled the credit card.

Implications and risks if recommendation not implemented

Without sufficient information on purchases, Departments may not identify inappropriate spending. Without appropriate processes in place to enforce non-compliance with policies, government credit cards may be misused. Without a clear process to challenge potentially ineligible transactions by senior officials, Departments may not be adequately mitigating the risk of inappropriate credit card use.

2. Government and ministry business plans

2.1 Guidance on societal measures—change in circumstance

In 2005 we recommended that the Department of Treasury Board (previously Finance) develop guidance relating to the purpose, definition and use of societal measures. In 2007 management decided that societal measures will not be included in the 2007–2010 government and ministry business plans.

Government of Alberta and Ministry Annual Reports

Summary: what we found in our audits

Performance reporting

- Financial statements

  Unqualified opinion for government and 20 ministries

  Our auditor's reports on the Government of Alberta's consolidated financial statements, and on all 20 ministry financial statements are unqualified.

- Performance measures

  One exception—*Measuring Up*; Exceptions in 4 ministries

  We found one exception when we applied specified auditing procedures to the performance measures in *Measuring Up*—see page 186. We found 4 exceptions in 4 of 20 ministries when we applied specified auditing procedures to ministry performance information in the 2006–2007 ministry annual reports—see page 186.

Overview

This section highlights the results of our examination of the *Government of Alberta Annual Report* for the year ended March 31, 2007. The Annual Report has two parts—*Consolidated Financial Statements* and *Measuring Up*. *Consolidated Financial Statements* provides an overall accounting of the government's revenue and spending, and assets and liabilities. *Measuring Up* reports on the progress that the government has made towards achieving its goals.

Government business plan, fiscal plan and annual report

The Government of Alberta Strategic Business Plan in *Budget 2006* includes Alberta's vision, 20 year strategic plan, and a three-year government business plan. The *Business Plan* identifies the goals, key strategies, links to ministry business plans, costs, and performance measures and targets. It identifies 14 goals, with strategies and measures for each goal. The government's *Fiscal Plan* outlines the consolidated budget to achieve the desired results in the business plan. The *Government of Alberta Annual Report* shows the results achieved against the measures and targets in the business plans.

20 ministries contribute to government results

The Alberta government has 20 ministries. Ministers and deputy ministers are responsible for managing their ministries and meeting government goals. Ministry business plans and annual reports provide information on the ministry's contribution to government results.

2006–2007 financial results

In 2006–2007, the Government of Alberta received approximately $38.5 billion in revenue and spent approximately $29.5 billion. The following summarizes the significant revenues and expenses:

	(millions of dollars)
Revenues	
Income and other taxes	$ 14,696
Non-renewable resource revenue	12,260
Transfers from Government of Canada	3,077
Net investment income	3,013
Other	5,511
	38,557
Expenses	
Health	10,878
Education	7,976
Social services	2,931
Other	7,880
	29,665
Excess of revenues over expenses for the year	$ 8,892

Government website

For more information on the government and its programs, see its website at www.gov.ab.ca.

Scope: what we did in our audits

We audited the government's consolidated financial statements and all ministry financial statements for the year ended March 31, 2007.

We applied specified auditing procedures to the government's performance measures reported in the *Measuring Up* section of the government's annual report and in all ministry annual reports.

Our audit findings and recommendations

1. Performance reporting

1.1 Financial statements

Unqualified opinion on consolidated financial statements

We issued an unqualified auditor's report on the government's consolidated financial statements for the year ended March 31, 2007. These consolidated financial statements include the following entities of the government:

- departments—20
- regulated funds—14
- provincial agencies—35
- commercial enterprises—4
- commercial Crown-controlled corporation—1
- non-commercial Crown-controlled corporations—2
- Offices of the Legislative Assembly—6
- school jurisdictions—75
- universities—4
- colleges—14
- technical institutes and the Banff Centre—3
- regional health authorities and other health boards—12

This list does not include the subsidiaries of provincial agencies, commercial enterprises, and Crown-controlled corporations.

Crown-controlled SUCH sector organizations

The consolidated financial statements include the financial results of Crown-controlled SUCH sector organizations using the modified equity basis of accounting. SUCH is an acronym for schools, universities, colleges and hospitals, but the term is used to describe a much broader list of organizations, including school boards, technical institutes, regional health authorities, and other health boards.

Unqualified opinions on financial statements

Our auditor's reports on the financial statements for the year ended March 31, 2007 of all 20 ministries are unqualified. For the first time, the ministries of Advanced Education and Technology, Education, and Health and Wellness included the financial results of the Crown-controlled SUCH sector organizations in their 2006–2007 ministry consolidated financial statements using the modified equity method of accounting.

The modified equity method of consolidation is allowed as a transition to line-by-line consolidation, which will be required for the year ending March 31, 2009.

Net assets would have increased by $10.4 billion

Under line-by-line consolidation, the government's capital assets would have been fully consolidated so net assets at March 31, 2007 would have increased by approximately $10.4 billion.

Improved readability

We commend the Ministry of Treasury Board's management for its efforts in improving the readability of the consolidated financial statements. We believe this should be an ongoing effort for the Ministry. All financial statements issued for entities within the government reporting entity should be relevant and readable, and still comply with the disclosure requirements of public sector accounting standards.

1.2 Performance measures

One exception in our report on *Measuring Up*

We found one exception when we applied specified auditing procedures to the performance measures in *Measuring Up*. There was no data reported for the measure *Support for Albertans with Severe Disabilities – Number of working days between completed application and decision for AISH applicants*. The government developed and implemented an electronic tracking system in April 2006 to assist in gathering information for this measure, but the data won't be complete until next year. As a result, we could not complete our specified auditing procedures for this measure.

Exceptions in our reports for 4 ministries

We found no exceptions when we completed specified auditing procedures on the performance information in the 2006–2007 ministry annual reports for 17 ministries. However, our reports for 4 ministries (Agriculture and Food, Children's Services, Seniors and Community Supports and Sustainable Resource Development) noted exceptions. These exceptions are described in the sections for those ministries in this *Annual Report*.